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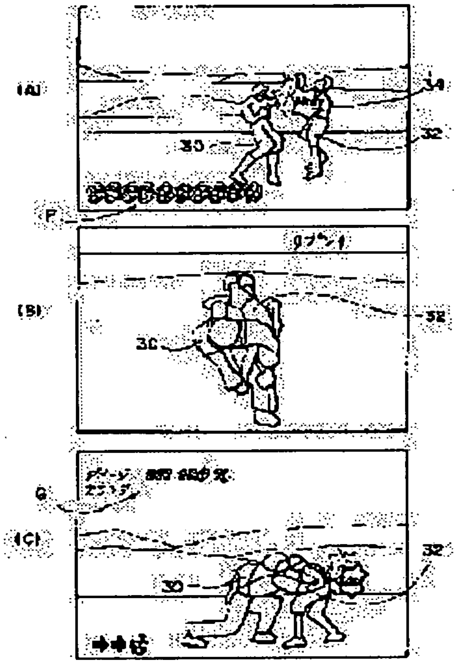
(54) IMAGE COMPOSING METHOD AND GAME DEVICE

(57)Abstract:
PROBLEM TO BE SOLVED: To easily learn operation procedures for causing a game character to perform various motions by showing a hit mark at the hit position of an attack, upon a player's selection of a practice mode.
SOLUTION: When a practice mode is selected via a controller, a practice menu screen appears and shows the image where a player's operated game character 30 and a computer operated hostile game character 32 fight each other. Then, when the game controller is operated and an attack by one character 30 or 32 hits the other character, a hit mark 34 is indicated at a hit position. When a punch hits the intermediate part of the hostile character 32, for example, the hit mark 34 including the symbol Mid to show the intermediate part is shown at the hit position. As a result, a player can know the position of the hostile character 32 where the punch hits.



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CLAIMS

[Claim(s)]

[Claim 1] The game character which is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, The image composition approach characterized by displaying the screen where the hit mark was displayed on the hit part when the attack of one game character hits in the game character of another side, while displaying the screen opposed between the game characters which a computer operates.

[Claim 2] The image composition approach characterized by said hit mark including the notation for identifying a hit part in claim 1.

[Claim 3] The image composition approach characterized by displaying a guard mark in claim 1 or either of 2 when the game character of said another side defends said attack.

[Claim 4] the case where an attack hits in claim 1 thru/or either of 3 in the upper case of the game character of said another side, the middle, and the lower berth — the object for upper cases, and the middle — a ** and the image composition approach characterized by displaying the hit mark for the lower berths.

[Claim 5] The game character which is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When the attack which the game character which a player chooses the Replay mode in said practice mode, and a player operates delivered to the game character which a computer operates fulfills given Replay generating conditions The image composition approach characterized by displaying the Replay screen about this attack of the game character which the game character and computer which a player operates operate.

[Claim 6] The image composition approach characterized by fulfilling said Replay generating conditions when the count of a successive attack of the game character which a player operates exceeds the count of predetermined in claim 5.

[Claim 7] The image composition approach characterized by fulfilling said Replay generating conditions when the operating procedure specified in claim 5 by at least one alter operation which the player inputted is in agreement with a given criteria procedure.

[Claim 8] The game character which is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When a player chooses the Replay mode in said practice mode and a player performs given actuation The image composition approach characterized by displaying the Replay screen about the actuation made before this given actuation of the game character which the game character and computer which a player operates operate.

[Claim 9] The game character which is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates The image composition approach characterized by displaying the screen on which attack actuation is made to perform on the game character which a computer operates when a player chooses counterattack mode in said practice mode.

[Claim 10] The game character which is game equipment which compounds a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, A means to display the screen opposed between the game characters which a computer operates, Game equipment characterized by including a means to display the screen where the hit mark was displayed on the hit part when the attack of one game character hits in the game character of another side.

[Claim 11] The game character which is game equipment which compounds a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, A means to display the screen opposed between the game characters which a computer operates, When the attack which the game character which a player chooses the Replay mode in said practice mode, and a player operates delivered to the game character which a computer operates fulfills given Replay generating conditions Game equipment characterized by including a means to display the Replay screen about this attack of the game character which the game character and computer which a player operates operate.

[Claim 12] The game character which is game equipment which compounds a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, A means to display the screen opposed between the game characters which a computer operates, When a player chooses the Replay mode in said practice mode and a player performs given actuation Game equipment characterized by including a means to display the Replay screen about the actuation made before this given actuation of the game character which the game character and computer which a player operates operate.

[Claim 13] The game character which is game equipment which compounds a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, A means to display the screen opposed between the game characters which a computer operates, Game equipment characterized by including a means to display the screen on which attack actuation is made to perform on the game character which a computer operates when a player chooses counterattack mode in said practice mode.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the image composition approach and game equipment.
[0002]
Background Art and Problem(s) to be Solved by the Invention] In a sport-combative game etc., the game character which a player operates, and the game character which a partner player (or computer) operates are opposed on a screen, and a game is enjoyed. In such a sport-combative game, since feeling which is actually being pitched against each other by players can be experienced, the popularity as a game is high.
[0003] Now, in a sport-combative game, the superiority or inferiority of the actuation workmanship which each player has have big effect on a game result. as [let / a game character / if the cross-joint key and manual operation button which a game controller has are operated with given operating procedure (procedures, such as specifying the left by the cross-joint key and pushing manual operation buttons A and B one by one) / especially in a sport-combative game, / special work (special actuation)] — **** — it is common that it is. And if special work is successful, since a serious damage can be given to a partner, the propriety of a success of special work has big effect on a game result. Therefore, it becomes a barometer showing the superiority or inferiority of the actuation workmanship of a player how it can let out special work smoothly.
[0004] However, generally the operating procedure for letting out work, such as the above-mentioned special work or a counterattack, and a guard, was complicated, and it was an activity very difficult for a player to master this operating procedure. Especially the thing for which such operating procedure is memorized during waging war with other players in the usual waging-war mode was difficult, and this had become one factor in which the player which does not have confidence in actuation workmanship keeps this kind of game at arm's length.
[0005] This invention has the place which it is made in order to solve the above technical technical problems, and is made into the purpose in offering the image composition approach and game equipment which can make a game character learn simply the operating procedure for making various actuation perform to a player.
[0006]
[Means for Solving the Problem] In order to solve the technical problem mentioned above, this invention is the image composition approach for compounding a game screen. The game character which a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates, when the attack of one game character hits in the game character of another side, it is characterized by displaying the screen where the hit mark was displayed on the hit part.
[0007] According to this invention, in the practice mode in which a player practices actuation, a hit mark is displayed on an offensive hit part. Therefore, a player is seeing this hit mark, and it can practice game actuation, checking the location which their attack or an enemy's attack hit.

Thereby, a player can master simply and quickly an attack technique, the defense technique to special work, etc., and its enjoyment of the game in waging-war mode can also improve.
[0008] Moreover, this invention is characterized by said hit mark including the notation for identifying a hit part. If it does in this way, a player can recognize a hit part still more quickly and certainly.
[0009] Moreover, this invention is characterized by displaying a guard mark, when the game character of said another side defends said attack. If it does in this way, when the game character which a player operates, for example will be a game character of said another side, a player can check easily whether defense actuation of it has been successful. Thereby, improvement in the defense technique of a player can be aimed at.
[0010] moreover, the case where an attack hits this invention in the upper case of the game character of said another side, the middle, and the lower berth — the object for upper cases, and the middle — it is characterized by displaying the hit mark for a ** and the lower berths. If it does in this way, a player can check easily in which location of an upper case, the middle, and the lower berth the attack has hit.
[0011] Moreover, the game character which this invention is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When the attack which the game character which a player chooses the Replay mode in said practice mode, and a player operates delivered to the game character which a computer operates fulfills given Replay generating conditions It is characterized by displaying the Replay screen about this attack of the game character which the game character and computer which a player operates operate.
[0012] If according to this invention given Replay generating conditions are fulfilled when attacking in practice mode, the display of the Replay screen about the attack will be performed. If it does in this way, Replay can be utilized as a production means in which the result of practice is impressed to a player.
[0013] Moreover, this invention is characterized by fulfilling said Replay generating conditions, when the count of a successive attack of the game character which a player operates exceeds the count of predetermined. If it does in this way, the satisfaction of the player which was successful in the successive attack of the count of predetermined can be raised further.
[0014] Moreover, this invention is characterized by fulfilling said Replay generating conditions, when the operating procedure specified by at least one alter operation which the player inputted is in agreement with a given criteria procedure. If it does in this way, the satisfaction of the player which succeeded in the delivery of special work etc. can be raised further.
[0015] Moreover, the game character which this invention is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When a player chooses the Replay mode in said practice mode and a player performs given actuation It is characterized by displaying the Replay screen about the actuation made before this given actuation of the game character which the game character and computer which a player operates operate.
[0016] According to this invention, the Replay screen of the actuation made before that at the time of the arbitration in the case of practice mode can be seen. Thereby, a player can enjoy the Replay mode now by the manual, and can increase the degree of freedom in the Replay mode.
[0017] Moreover, the game character which this invention is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When a player chooses counterattack mode in said practice mode, it is characterized by displaying the screen on which attack actuation is made to perform on the game character which a computer operates.
[0018] Since the game character which a computer operates in the case of counterattack mode actually devises an attack according to this invention, acquisition with the sufficient effectiveness of the technique of a counterattack is attained.

[0019]
[Embodiment of the Invention] Hereafter, the example of this invention is explained using a drawing.

[0020] An example of the game screen displayed on drawing 1 (A), (B), and (C) by this example is shown. A player operates the game character 30 and a computer operates the enemy game character 32. An example of the game controller used for drawing 2 (A) by this example is shown. manual operation buttons 10, 12, 14, and 16 serving as a direction directions means, and pushing manual operation buttons 10, 12, 14, and 16 in drawing 2 (A), — it is — jump actuation of a game character — it right-translation-operates, and it squats down and actuation, left translation actuation, etc. are performed. Moreover, punch actuation of a game character, kick actuation, etc. are performed by pushing manual operation buttons 20, 22, 24, and 26. Moreover, a manual operation button 14 is pushed or guard actuation is performed by pushing manual operation buttons 14 and 16 at coincidence etc. Moreover, either of the manual operation buttons 20, 22, 24, and 26 may be assigned to the manual operation button for guard actuation. A start button 28 is for performing game start, mode selection, etc.

[0021] In addition, although the game controller shown in drawing 2 (A) is generally widely used in home video game equipment, the game controller used by this invention is not restricted to this, and the game controller of business-use game equipment as shown in drawing 2 (B) is also contained. In this case, the lever 96 used as a direction directions means and the manual operation button group 98 will perform game actuation.

[0022] Moreover, in this example, it is judged whether the operating procedure specified by actuation by which a sequential input is carried out by the game controller is in agreement with the operating procedure of criteria, and when in agreement, a game character lets out special work. For example, when "manual operation buttons 20 and 24 are pushed after hitting a manual operation button 12 repeatedly twice" by the operating procedure used as criteria and the inputted operating procedure is in agreement with the operating procedure of the above-mentioned criteria also including input timing, a game character will let out the special work corresponding to this operating procedure.

[0023] Now, in this example, a mode selection screen as shown in drawing 3 (A) is displayed immediately after a game start. And a player's selection of practice mode displays a practice schedule screen as shown in drawing 3 (B).

[0024] This practice mode is for a player to practice actuation which used the game controller. In practice mode, as shown in drawing 1 (A), the screen where the game character 30 which a player operates, and the enemy game character 32 which a computer operates play a match is displayed.

[0025] As shown in drawing 1 (A), the 1st description of this example is that it displays the hit mark 34 on a hit part, when the attack of one game character hits in the game character of another side in practice mode. And this hit mark 34 includes the notation for identifying a hit part. In drawing 1 (A), since punch hit to the middle of the enemy game character 32, the hit mark 34 including the notation of "Mid" showing the semantics of the middle is displayed on the hit part. A player can recognize easily by this whether punch hit in the location of enemy game character 32 throat. On the other hand, in drawing 4 (A), since it has hit in the lower berth of the enemy game character 32, the hit mark 36 including the notation of "Low" showing the semantics of the lower berth is displayed on a hit part.

[0026] A hit mark is displayed also when an enemy's punch etc. hits in the game character 30 which a player operates. That is, in drawing 4 (B), since the enemy game character 32 which a computer operates let out punch and this hit on the upper case of the game character 30, the hit mark 38 including the notation of "High" is displayed on the hit part. On the other hand, in drawing 4 (C), the game character 30 performed guard actuation by actuation of a player, and the attack of an enemy game character is avoided. The guard mark 39 is displayed at this time, and it is told to a player at it that the defense to an enemy's attack was successful.

[0027] In a sport-combative game etc., it becomes the important element with which the superiority or inferiority of a defense technique also settle the victory or defeat of a game. In order to make defense successful, it is necessary to judge quickly the thing to any of an upper

case, the middle, and the lower berth an enemy's attack is, and to perform suitable guard actuation according to each attack part. However, in actual waging-war mode, since actuation of a game character is quick, it cannot judge in many cases in which location an enemy's punch hit in an instant. In the practice mode of this example, if an enemy's attack hits, since a hit mark will be displayed on a hit part, it can recognize in which location it hit in an instant. Moreover, since a guard mark is displayed when it succeeds in defense, it can recognize also about whether it succeeded in the guard in an instant. For this reason, according to this example, the activity which masters the defense technique to an enemy's attack becomes easy, and the practice mode which can learn complicated operating procedure appropriately and easily can be offered. The attack pattern was decided when a game character let out special work especially, for example, as it attacks or attacked in order of an upper case, the middle, and the lower berth on the upper case. Therefore, special work is made to let out to an enemy game character in practice mode, and if a defense technique is mastered looking at the display of a hit mark and a guard mark, the defense technique to special work can be learned simply and quickly.
[0028] The flowchart for explaining a hit mark display process to drawing 5 (A) is shown. It judges whether the attack of an enemy game character or a player game character hit as the partner first (step S1), when it hits, a hit part is pinpointed (step S2), and a hit mark is displayed on the hit part (step S3). In this example, the motion data of a game character are prepared beforehand. For example, the motion data with which the player was prepared for punch actuation when push and this were received in the punch carbon button will be read, and a game character will perform actuation according to this motion data. For example, the motions 74 and 76 of drawing 5 (B) show the motion in every frame in the case of punch actuation, and the data showing a motion of the joint in motions 74 and 76 etc. are beforehand prepared as motion data, and they are memorized on memory. Pinpointing of hit checking and a hit part will be performed using this motion data etc. While the ball defined with the position coordinate (x y, z) and radius r of a fist of a game character judges whether the enemy game character was intersected, it is asking for a crossover location and, specifically, pinpointing of hit checking and a hit part is performed.
[0029] In addition, as shown in drawing 6 , each game character can let out various kinds of special work. The operating procedure lists 40 and 42 shown in drawing 6 here show the operating procedure for letting out the special work which the game characters 30 and 32 have. These operating procedure lists 40 and 42 are displayed by turning ON the operating procedure list mode of the practice schedule screen shown in drawing 3 (B). The data which show an attack part to such special work can be giving according to the individual. For example, in special work 1A, the attack part serves as order of the lower berth and the middle, and the data in which attacking the lower berth and the middle is shown are contained in the data showing special work 1A. Therefore, when special work lets out, it becomes possible by using the data showing this attack part to display a hit mark on an attack location.
[0030] Moreover, in this example, on the practice schedule screen shown in drawing 3 (B), as the contents display mode of actuation is shown in F of drawing 1 (A) by turning ON, a sequential indication of the contents of the actuation which the player inputted is given using various delimiters. Thereby, a player can recognize visually the contents of the actuation which he inputted, and can raise the effectiveness of practice with practice mode. Moreover, in this example, the display which shows coincidence of the inputted operating procedure and the criteria procedure for letting out special work and an inequality is also performed.
[0031] The various examples of a delimiter are shown in drawing 2 (C). A delimiter 60 is a notation which shows that the manual operation button 14 used as a down direction directions means is pushed. Similarly, a delimiter 61 is a notation which shows that manual operation buttons 14 and 16 are pushed at coincidence, and this actuation is equivalent to the direction directions to the direction of the lower left. In addition, respectively, although delimiters 60 and 61 serve as an arrow head of a black display and a white display, they show that the arrow head of a black display pushes a manual operation button for a long time, and show that the arrow head of a white display is pushed short. A delimiter 62 is a notation which shows that a given time interval is inserted between two alter operation. In this example, this time interval is spacing

of one – (1 / 60 seconds) five frames. Therefore, a delimiter 62 turns into a notation which requires that the time interval to other alter operation from one alter operation should be stored within the limits of one – five frames. Delimiters 63, 64, 65, and 66 are notations which show respectively that manual operation buttons 20, 22, 24, and 26 are pushed. Thus, discernment of the contents of actuation becomes easy by displaying the same image as carbon button arrangement of a game controller. Moreover, if these delimiters are compared, the manual operation button with which the arrangement on a game controller differs will be displayed by mutually different color at this example so that clearly. By doing in this way, discernment of actuation by the delimiter becomes still easier. A delimiter 67 is a notation which shows that both manual operation buttons 22 and 24 are pushed. Thus, it is contained in actuation of specifying operating procedure also when it is operated combining two or more manual operation buttons etc.

[0032] Next, the 2nd description of this example is explained. The 2nd description of this example chooses the Replay mode in practice mode, and when Replay generating conditions are fulfilled, or when a player performs given actuation, it is that it displays the Replay screen. An example of the Replay screen in this case is shown in drawing 1 (B). At the time of Replay, the screen which appears from a different view from the time of a game play is displayed.

[0033] The flow chart for explaining processing with the Replay mode to drawing 7 (A) and (B) is shown. In this example, two kinds of Replay of Replay A and B is prepared. In Replay A, Replay mode is turned ON on the practice schedule screen first shown in drawing 3 (A) (step T1). Next, Replay generating conditions are set up (step T2). Various things can be considered as Replay generating conditions. For example, when the count of a successive attack of the game character which a player operates exceeds the count of predetermined, suppose that Replay generating conditions are fulfilled. If it does in this way, Replay is utilizable as the production technique which impresses the result in practice mode in a player. Moreover, when the operating procedure specified by at least one alter operation which the player inputted is in agreement with given criteria (i.e., when a player succeeds in the delivery of special work), Replay generating conditions may be made to fulfill. If it does in this way, since Replay of the special work which the player sent out at the time of a success of special work will be performed, the satisfaction of the player to the result in practice mode can be raised, and the charm in practice mode can be increased. When a player attacks to an enemy (step T3), consequently a successive attack carries out that a success or special work is successful etc. and Replay generating conditions are fulfilled (step T four), the Replay screen as shown in drawing 1 (B) will be displayed.

[0034] Next, Replay B is explained. Replay mode is first turned ON with a practice mode menu (step U1), and then manual Replay is chosen (step U2). In manual Replay, Replay can be generated to the timing of arbitration, without being restrained by the above-mentioned Replay generating conditions. That is, Replay will be performed if the start button 28 shown in drawing 2 (A) when delivering an attack to an enemy is pushed (steps U3, U4, and U5). (if given actuation is performed) Replay of the attack delivered within the predetermined period before this pushes a start button 28 can be seen. Thus, according to Replay B, Replay at the time of the arbitration for which a player asks can be seen.

[0035] Next, the concrete technique of realizing Replay A and B is explained. The Replay data for carrying out Replay to a game character are stored in the Replay buffer in main memory. The DS of the Replay data stored in the Replay buffer at drawing 8 (A) is shown. A motion number is for reading the motion data of a game character from on memory here. For example, although the example of the motion which a game character performs for every frame at the time of left punch is shown in drawing 8 (B), the motion data (data showing a motion of a joint etc.) for making these motions perform can be respectively read by the motion numbers 1, 2, and 3. On the other hand, since motion data are described by local system of coordinates, in order to ask for a motion of the game character in an absolute coordinate system, the location data in the absolute coordinate system of a game character are required, and this location data is also stored in the Replay buffer. What is necessary is just to read location data and a motion number from the Replay buffer of a player game character one by one, in performing Replay of the game

game equipment which does not use the information storage medium 1006.

[0044] A control apparatus 1022 is equipment for inputting into the body of game equipment the result of the decision which is equivalent to a game controller and a player performs according to game advance.

[0045] According to the game program stored in the information storage medium 1006, the system program stored in ROM1002, the signal inputted by the control apparatus 1022, CPU1000 performs control of the whole equipment and various data processing. RAM1004 is a storage means used as a working area of this CPU1000 etc., and the predetermined contents of the information storage medium 1006 or ROM1002 or the result of an operation of CPU1000 is stored. Moreover, the DS with logical configurations, such as the Replay data shown in drawing 8 (A) and (B) and motion data, will be built on this RAM.

[0046] Furthermore, the sound composition IC 1008 and the image composition IC 1010 are formed in this kind of game equipment, and the suitable output of a game sound or a game screen can be performed now. The sound composition IC 1008 is an integrated circuit which compounds game sounds, such as a sound effect and background music, based on the information memorized by the information storage medium 1006 and ROM1002, and the compounded game sound is outputted by the loudspeaker 1020. Moreover, the image composition IC 1010 is an integrated circuit which compounds the pixel information for outputting to a display 1018 based on the image information sent from RAM1004, ROM1002, and information storage medium 1006 grade. In addition, as a display 1018, what is called the so-called head mount display (HMD) can also be used.

[0047] Moreover, a communication device 1024 exchanges with the exterior various kinds of information used inside game equipment, and is connected with other game equipments, and the predetermined information according to a game program is sent and received, or it is used for sending and receiving information, such as a game program, through a communication line etc.

[0048] And image composition processing in_which it explained by drawing 1 (A) - (C), drawing 3 (A), (B), and drawing 4 (A) - (C) is realized by the information storage 1006 which stored the game program which performs processing shown in the flowchart shown in drawing 5 (A), drawing 7 (A), (B), and drawing 9 , and CPU1000 and the image composition IC1010 grade which operate according to this game program. In addition, CPU1000 or general-purpose DSP may perform by software processing performed in the image composition IC 1010 and sound composition IC1008 grade.

[0049] In addition, what [not only] was explained in the above-mentioned example but various deformation implementation is possible for this invention.

[0050] For example, the gestalt of a hit mark is not restricted to what was explained by this example, and the thing of various gestalten which gave the device which easy-izes recognition of the player of a hit part can be used for it. Moreover, Replay generating conditions can also consider equal various conditions to be these besides what was explained by this example.

[0051] Moreover, this invention can be applied also to games other than a sport-combative game, and various things, such as a thing showing human being, a robot, and a tank, are contained in the game character of this invention.

[0052]

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the image composition approach and game equipment.

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TECHNICAL PROBLEM

Background Art and Problem(s) to be Solved by the [Invention] In a sport-combative game etc., the game character which a player operates, and the game character which a partner player (or computer) operates are opposed on a screen, and a game is enjoyed. In such a sport-combative game, since feeling which is actually being pitched against each other by players can be experienced, the popularity as a game is high.
[0003] Now, in a sport-combative game, the superiority or inferiority of the actuation workmanship which each player has have big effect on a game result. as [let / a game character / if the cross-joint key and manual operation button which a game controller has are operated with given operating procedure (procedures, such as specifying the left by the cross-joint key and pushing manual operation buttons A and B one by one) / especially in a sport-combative game, / special work (special actuation)] — **** — it is common that it is. And if special work is successful, since a serious damage can be given to a partner, the propriety of a success of special work has big effect on a game result. Therefore, it becomes a barometer showing the superiority or inferiority of the actuation workmanship of a player how it can let out special work smoothly.
[0004] However, generally the operating procedure for letting out work, such as the above-mentioned special work or a counterattack, and a guard, was complicated, and it was an activity very difficult for a player to master this operating procedure. Especially the thing for which such operating procedure is memorized during waging war with other players in the usual waging-war mode was difficult, and this had become one factor in which the player which does not have confidence in actuation workmanship keeps this kind of game at arm's length.
[0005] This invention has the place which it is made in order to solve the above technical technical problems, and is made into the purpose in offering the image composition approach and game equipment which can make a game character learn simply the operating procedure for making various actuation perform to a player.

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MEANS

[Means for Solving the Problem] In order to solve the technical problem mentioned above, this invention is the image composition approach for compounding a game screen. The game character which a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates, when the attack of one game character hits in the game character of another side, it is characterized by displaying the screen where the hit mark was displayed on the hit part.
[0007] According to this invention, in the practice mode in which a player practices actuation, a hit mark is displayed on an offensive hit part. Therefore, a player is seeing this hit mark, and it can practice game actuation, checking the location which their attack or an enemy's attack hit. Thereby, a player can master simply and quickly an attack technique, the defense technique to special work, etc., and its enjoyment of the game in waging-war mode can also improve.
[0008] Moreover, this invention is characterized by said hit mark including the notation for identifying a hit part. If it does in this way, a player can recognize a hit part still more quickly and certainly.
[0009] Moreover, this invention is characterized by displaying a guard mark, when the game character of said another side defends said attack. If it does in this way, when the game character which a player operates, for example will be a game character of said another side, a player can check easily whether defense actuation of it has been successful. Thereby, improvement in the defense technique of a player can be aimed at.
[0010] moreover, the case where an attack hits this invention in the upper case of the game character of said another side, the middle, and the lower berth — the object for upper cases, and the middle — it is characterized by displaying the hit mark for a ** and the lower berths. If it does in this way, a player can check easily in which location of an upper case, the middle, and the lower berth the attack has hit.
[0011] Moreover, the game character which this invention is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When the attack which the game character which a player chooses the Replay mode in said practice mode, and a player operates delivered to the game character which a computer operates fulfills given Replay generating conditions It is characterized by displaying the Replay screen about this attack of the game character which the game character and computer which a player operates operate.
[0012] If according to this invention given Replay generating conditions are fulfilled when attacking in practice mode, the display of the Replay screen about the attack will be performed. If it does in this way, Replay can be utilized as a production means in which the result of practice is impressed to a player.
[0013] Moreover, this invention is characterized by fulfilling said Replay generating conditions, when the count of a successive attack of the game character which a player operates exceeds the count of predetermined. If it does in this way, the satisfaction of the player which was successful in the successive attack of the count of predetermined can be raised further.

[0014] Moreover, this invention is characterized by fulfilling said Replay generating conditions, when the operating procedure specified by at least one alter operation which the player inputted is in agreement with a given criteria procedure. If it does in this way, the satisfaction of the player which succeeded in the delivery of special work etc. can be raised further.

[0015] Moreover, the game character which this invention is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When a player chooses the Replay mode in said practice mode and a player performs given actuation It is characterized by displaying the Replay screen about the actuation made before this given actuation of the game character which the game character and computer which a player operates operate.

[0016] According to this invention, the Replay screen of the actuation made before that at the time of the arbitration in the case of practice mode can be seen. Thereby, a player can enjoy the Replay mode now by the manual, and can increase the degree of freedom in the Replay mode.

[0017] Moreover, the game character which this invention is the image composition approach for compounding a game screen, and a player operates when practice mode for a player to practice actuation using a game controller is chosen, While displaying the screen opposed between the game characters which a computer operates When a player chooses counterattack mode in said practice mode, it is characterized by displaying the screen on which attack actuation is made to perform on the game character which a computer operates.

[0018] Since the game character which a computer operates in the case of counterattack mode actually devises an attack according to this invention, acquisition with the sufficient effectiveness of the technique of a counterattack is attained.

[0019]

[Embodiment of the Invention] Hereafter, the example of this invention is explained using a drawing.

[0020] An example of the game screen displayed on drawing 1 (A), (B), and (C) by this example is shown. A player operates the game character 30 and a computer operates the enemy game character 32. An example of the game controller used for drawing 2 (A) by this example is shown. manual operation buttons 10, 12, 14, and 16 serving as a direction directions means, and pushing manual operation buttons 10, 12, 14, and 16 in drawing 2 (A), — it is — jump actuation of a game character — it right-translation-operates, and it squats down and actuation, left translation actuation, etc. are performed. Moreover, punch actuation of a game character, kick actuation, etc. are performed by pushing manual operation buttons 20, 22, 24, and 26. Moreover, a manual operation button 14 is pushed or guard actuation is performed by pushing manual operation buttons 14 and 16 at coincidence etc. Moreover, either of the manual operation buttons 20, 22, 24, and 26 may be assigned to the manual operation button for guard actuation. A start button 28 is for performing game start, mode selection, etc.

[0021] In addition, although the game controller shown in drawing 2 (A) is generally widely used in home video game equipment, the game controller used by this invention is not restricted to this, and the game controller of business-use game equipment as shown in drawing 2 (B) is also contained. In this case, the lever 96 used as a direction directions means and the manual operation button group 98 will perform game actuation.

[0022] Moreover, in this example, it is judged whether the operating procedure specified by actuation by which a sequential input is carried out by the game controller is in agreement with the operating procedure of criteria, and when in agreement, a game character lets out special work. For example, when ″manual operation buttons 20 and 24 are pushed after hitting a manual operation button 12 repeatedly twice″ by the operating procedure used as criteria and the inputted operating procedure is in agreement with the operating procedure of the above-mentioned criteria also including input timing, a game character will let out the special work corresponding to this operating procedure.

[0023] Now, in this example, a mode selection screen as shown in drawing 3 (A) is displayed immediately after a game start. And a player's selection of practice mode displays a practice schedule screen as shown in drawing 3 (B).

[0024] This practice mode is for a player to practice actuation which used the game controller. In practice mode, as shown in drawing 1 (A), the screen where the game character 30 which a player operates, and the enemy game character 32 which a computer operates play a match is displayed.

[0025] As shown in drawing 1 (A), the 1st description of this example is that it displays the hit mark 34 on a hit part, when the attack of one game character hits in the game character of another side in practice mode. And this hit mark 34 includes the notation for identifying a hit part. In drawing 1 (A), since punch hit to the middle of the enemy game character 32, the hit mark 34 including the notation of "Mid" showing the semantics of the middle is displayed on the hit part. A player can recognize easily by this whether punch hit in the location of enemy game character 32 throat. On the other hand, in drawing 4 (A), since it has hit in the lower berth of the enemy game character 32, the hit mark 36 including the notation of "Low" showing the semantics of the lower berth is displayed on a hit part.

[0026] A hit mark is displayed also when an enemy's punch etc. hits in the game character 30 which a player operates. That is, in drawing 4 (B), since the enemy game character 32 which a computer operates let out punch and this hit on the upper case of the game character 30, the hit mark 38 including the notation of "High" is displayed on the hit part. On the other hand, in drawing 4 (C), the game character 30 performed guard actuation by actuation of a player, and the attack of an enemy game character is avoided. The guard mark 39 is displayed at this time, and it is told to a player at it that the defense to an enemy's attack was successful.

[0027] In a sport-combative game etc., it becomes the important element with which the superiority or inferiority of a defense technique also settle the victory or defeat of a game. In order to make defense successful, it is necessary to judge quickly the thing to any of an upper case, the middle, and the lower berth an enemy's attack is, and to perform suitable guard actuation according to each attack part. However, in actual waging-war mode, since actuation of a game character is quick, it cannot judge in many cases in which location an enemy's punch hit in an instant. In the practice mode of this example, if an enemy's attack hits, since a hit mark will be displayed on a hit part, it can recognize in which location it hit in an instant. Moreover, since a guard mark is displayed when it succeeds in defense, it can recognize also about whether it succeeded in the guard in an instant. For this reason, according to this example, the activity which masters the defense technique to an enemy's attack becomes easy, and the practice mode which can learn complicated operating procedure appropriately and easily can be offered. The attack pattern was decided when a game character let out special work especially, for example, as it attacks or attacked in order of an upper case, the middle, and the lower berth on the upper case. Therefore, special work is made to let out to an enemy game character in practice mode, and if a defense technique is mastered looking at the display of a hit mark and a guard mark, the defense technique to special work can be learned simply and quickly.

[0028] The flowchart for explaining a hit mark display process to drawing 5 (A) is shown. It judges whether the attack of an enemy game character or a player game character hit as the partner first (step S1), when it hits, a hit part is pinpointed (step S2), and a hit mark is displayed on the hit part (step S3). In this example, the motion data of a game character are prepared beforehand. For example, the motion data with which the player was prepared for punch actuation when push and this were received in the punch carbon button will be read, and a game character will perform actuation according to this motion data. For example, the motions 74 and 76 of drawing 5 (B) show the motion in every frame in the case of punch actuation, and the data showing a motion of the joint in motions 74 and 76 etc. are beforehand prepared as motion data, and they are memorized on memory. Pinpointing of hit checking and a hit part will be performed using this motion data etc. While the ball defined with the position coordinate (x y, z) and radius r of a fist of a game character judges whether the enemy game character was intersected, it is asking for a crossover location and, specifically, pinpointing of hit checking and a hit part is performed.

[0029] In addition, as shown in drawing 6 , each game character can let out various kinds of special work. The operating procedure lists 40 and 42 shown in drawing 6 here show the operating procedure for letting out the special work which the game characters 30 and 32 have.

These operating procedure lists 40 and 42 are displayed by turning ON the operating procedure list mode of the practice schedule screen shown in drawing 3 (B). The data which show an attack part to such special work can be giving according to the individual. For example, in special work 1A, the attack part serves as order of the lower berth and the middle, and the data in which attacking the lower berth and the middle is shown are contained in the data showing special work 1A. Therefore, when special work lets out, it becomes possible by using the data showing this attack part to display a hit mark on an attack location.

[0030] Moreover, in this example, on the practice schedule screen shown in drawing 3 (B), as the contents display mode of actuation is shown in F of drawing 1 (A) by turning ON, a sequential indication of the contents of the actuation which the player inputted is given using various delimiters. Thereby, a player can recognize visually the contents of the actuation which he inputted, and can raise the effectiveness of practice with practice mode. Moreover, in this example, the display which shows coincidence of the inputted operating procedure and the criteria procedure for letting out special work and an inequality is also performed.

[0031] The various examples of a delimiter are shown in drawing 2 (C). A delimiter 60 is a notation which shows that the manual operation button 14 used as a down direction directions means is pushed. Similarly, a delimiter 61 is a notation which shows that manual operation buttons 14 and 16 are pushed at coincidence, and this actuation is equivalent to the direction directions to the direction of the lower left. In addition, respectively, although delimiters 60 and 61 serve as an arrow head of a black display and a white display, they show that the arrow head of a black display pushes a manual operation button for a long time, and show that the arrow head of a white display is pushed short. A delimiter 62 is a notation which shows that a given time interval is inserted between two alter operation. In this example, this time interval is spacing of one – (1 / 60 seconds) five frames. Therefore, a delimiter 62 turns into a notation which requires that the time interval to other alter operation from one alter operation should be stored within the limits of one – five frames. Delimiters 63, 64, 65, and 66 are notations which show respectively that manual operation buttons 20, 22, 24, and 26 are pushed. Thus, discernment of the contents of actuation becomes easy by displaying the same image as carbon button arrangement of a game controller. Moreover, if these delimiters are compared, the manual operation button with which the arrangement on a game controller differs will be displayed by mutually different color at this example so that clearly. By doing in this way, discernment of actuation by the delimiter becomes still easier. A delimiter 67 is a notation which shows that both manual operation buttons 22 and 24 are pushed. Thus, it is contained in actuation of specifying operating procedure also when it is operated combining two or more manual operation buttons etc.

[0032] Next, the 2nd description of this example is explained. The 2nd description of this example chooses the Replay mode in practice mode, and when Replay generating conditions are fulfilled, or when a player performs given actuation, it is that it displays the Replay screen. An example of the Replay screen in this case is shown in drawing 1 (B). At the time of Replay, the screen which appears from a different view from the time of a game play is displayed.

[0033] The flow chart for explaining processing with the Replay mode to drawing 7 (A) and (B) is shown. In this example, two kinds of Replay of Replay A and B is prepared. In Replay A, Replay mode is turned ON on the practice schedule screen first shown in drawing 3 (A) (step T1). Next, Replay generating conditions are set up (step T2). Various things can be considered as Replay generating conditions. For example, when the count of a successive attack of the game character which a player operates exceeds the count of predetermined, suppose that Replay generating conditions are fulfilled. If it does in this way, Replay is utilizable as the production technique which impresses the result in practice mode in a player. Moreover, when the operating procedure specified by at least one alter operation which the player inputted is in agreement with given criteria (i.e., when a player succeeds in the delivery of special work), Replay generating conditions may be made to fulfill. If it does in this way, since Replay of the special work which the player sent out at the time of a success of special work will be performed, the satisfaction of the player to the result in practice mode can be raised, and the charm in practice mode can be increased. When a player attacks to an enemy (step T3), consequently a successive attack carries out that a success or special work is successful etc. and Replay generating conditions are fulfilled (step T four), the Replay screen as shown in drawing 1 (B) will be displayed.

[0034] Next, Replay B is explained. Replay mode is first turned ON with a practice mode menu (step U1), and then manual Replay is chosen (step U2). In manual Replay, Replay can be generated to the timing of arbitration, without being restrained by the above-mentioned Replay generating conditions. That is, Replay will be performed if the start button 28 shown in drawing 2 (A) when delivering an attack to an enemy is pushed (steps U3, U4, and U5). (if given actuation is performed) Replay of the attack delivered within the predetermined period before this pushes a start button 28 can be seen. Thus, according to Replay B, Replay at the time of the arbitration for which a player asks can be seen.

[0035] Next, the concrete technique of realizing Replay A and B is explained. The Replay data for carrying out Replay to a game character are stored in the Replay buffer in main memory. The DS of the Replay data stored in the Replay buffer at drawing 8 (A) is shown. A motion number is for reading the motion data of a game character from on memory here. For example, although the example of the motion which a game character performs for every frame at the time of left punch is shown in drawing 8 (B), the motion data (data showing a motion of a joint etc.) for making these motions perform can be respectively read by the motion numbers 1, 2, and 3. On the other hand, since motion data are described by local system of coordinates, in order to ask for a motion of the game character in an absolute coordinate system, the location data in the absolute coordinate system of a game character are required, and this location data is also stored in the Replay buffer. What is necessary is just to read location data and a motion number from the Replay buffer of a player game character one by one, in performing Replay of the game character which a player operates. That is, motion data are read by the above-mentioned motion number, and a motion of the game character for every frame as shown in drawing 8 (B) can be reproduced by changing this motion data into an absolute coordinate system using the above-mentioned location data. Replay of actuation of an enemy game character is realizable similarly.

[0036] in the Replay mode, it is shown in drawing 8 (C) — as — the Replay buffer — receiving -- the addresses A0 and A1 and .... the Replay data are overwritten one by one in order of Ak. If the Replay data are written in Address Ak, next it will return and the Replay data will be overwritten by the address A0.

[0037] If the start button 28 of drawing 2 (A) is pushed and Replay B is performed, playback will be performed from the oldest Replay data at the time. the case where the address with which the Replay data were finally overwritten is A2 — address A3, A4, and .... Replay is ended, when it is reproduced from the Replay data in order of Ak, A1, and A2 and the Replay data of the address A2 are reproduced.

[0038] On the other hand, if Replay A is performed, the address which started the address or special work on the Replay buffer which started the successive attack will be searched by the given program. For example, when the address is A5, playback of the Replay data will be started from address A5, and the Replay data will be reproduced to the address which the address or special work with which a successive attack breaks off ends.

[0039] Next, the 3rd description of this example is explained. The 3rd description of this example is in the point of making attack actuation performing in the game character which a computer operates, when counterattack mode is chosen in practice mode. By doing in this way, a player becomes possible [practicing a counterattack effectively]. The game screen at the time of a counterattack is shown in drawing 1 (C). In drawing 1 (C), the player game character 30 is performing the counterattack to the attack of the enemy game character 32.

[0040] The flow chart for explaining processing with counterattack mode to drawing 9 is shown. Counterattack mode is turned ON on the practice schedule screen first shown in drawing 2 (B) (step V1). Then, in order that the enemy game character which a computer operates may devise an attack, a player operates a game character and performs a counterattack (step V2). And if a counterattack is successful (step V3), while the game screen in which it is shown that the counterattack was successful will be displayed, the display which shows the damage given to the enemy by the counterattack as shown in G of drawing 1 (C) is performed (step V4).

[0041] If an enemy game character lets out work, it will **** in memory and a flag will stand. If the attack of a player game character hits in an enemy game character when [this] it **** and the flag stands, count called amount of damages = usual amount xof damages 1.2 will be performed, and the amount of damages of an enemy game character will increase. In order to tell a player about this, a display as shown in G of drawing 1 (C) is performed. Thus, since a serious damage can be given to an enemy if it succeeds in a counterattack, the superiority or inferiority of the workmanship of a counterattack serve as an important element which determines the victory or defeat of a game. Since the timing to which an enemy game character devises an attack in the usual waging-war mode is not fixed, it is difficult to practice a counterattack. In the counterattack mode of this example, since an attack is devised to the timing that an enemy game character is fixed, a counterattack can be practiced effectively.

[0042] Next, the example of a hardware configuration of the game equipment which can realize this example is explained using drawing 10 . With the game equipment shown in this drawing, CPU1000, ROM1002, RAM1004, the information storage medium 1006, the sound composition IC 1008, the image composition IC 1010, and I/O Ports 1012 and 1014 are mutually connected by the system bus 1016 possible [data transmission and reception]. And a display 1018 is connected to said image composition IC 1010, a loudspeaker 1020 is connected to the sound composition IC 1008, a control apparatus 1022 is connected to I/O Port 1012, and the communication device 1024 is connected to I/O Port 1014.

[0043] Image information for the information storage medium 1006 to express a game program and a display object etc. is mainly stored, and CD-ROM, a game cassette, an IC card, MO, FD, etc. are used. Moreover, ROM1002 memorizes the initialization information on the body of game equipment etc. However, a game program, image information, etc. are stored in ROM1002 in game equipment which does not use the information storage medium 1006.

[0044] A control apparatus 1022 is equipment for inputting into the body of game equipment the result of the decision which is equivalent to a game controller and a player performs according to game advance.

[0045] According to the game program stored in the information storage medium 1006, the system program stored in ROM1002, the signal inputted by the control apparatus 1022, CPU1000 performs control of the whole equipment and various data processing. RAM1004 is a storage means used as a working area of this CPU1000 etc., and the predetermined contents of the information storage medium 1006 or ROM1002 or the result of an operation of CPU1000 is stored. Moreover, the DS with logical configurations, such as the Replay data shown in drawing 8 (A) and (B) and motion data, will be built on this RAM.

[0046] Furthermore, the sound composition IC 1008 and the image composition IC 1010 are formed in this kind of game equipment, and the suitable output of a game sound or a game screen can be performed now. The sound composition IC 1008 is an integrated circuit which compounds game sounds, such as a sound effect and background music, based on the information memorized by the information storage medium 1006 and ROM1002, and the compounded game sound is outputted by the loudspeaker 1020. Moreover, the image composition IC 1010 is an integrated circuit which compounds the pixel information for outputting to a display 1018 based on the image information sent from RAM1004, ROM1002, and information storage medium 1006 grade. In addition, as a display 1018, what is called the so-called head mount display (HMD) can also be used.

[0047] Moreover, a communication device 1024 exchanges with the exterior various kinds of information used inside game equipment, and is connected with other game equipments, and the predetermined information according to a game program is sent and received, or it is used for sending and receiving information, such as a game program, through a communication line etc.

[0048] And image composition processing in which it explained by drawing 1 (A) - (C), drawing 3 (A), (B), and drawing 4 (A) - (C) is realized by the information storage 1006 which stored the game program which performs processing shown in the flowchart shown in drawing 5 (A), drawing 7 (A), (B), and drawing 9 , and CPU1000 and the image composition IC1010 grade which operate according to this game program. In addition, CPU1000 or general-purpose DSP may perform by software processing performed in the image composition IC 1010 and sound composition IC1008 grade.

[0049] In addition, what [not only] was explained in the above-mentioned example but various deformation implementation is possible for this invention.

[0050] For example, the gestalt of a hit mark is not restricted to what was explained by this example, and the thing of various gestalten which gave the device which easy-izes recognition of the player of a hit part can be used for it. Moreover, Replay generating conditions can also consider equal various conditions to be these besides what was explained by this example.

[0051] Moreover, this invention can be applied also to games other than a sport-combative game, and various things, such as a thing showing human being, a robot, and a tank, are contained in the game character of this invention.

[Translation done.]

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1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] Drawing 1 (A), (B), and (C) are drawings showing an example of the screen displayed by this example.
[Drawing 2] Drawing 2 (A) and (B) are drawings showing an example of a game controller, and drawing 2 (C) is drawing showing various delimiters.
[Drawing 3] Drawing 3 (A) and (B) are drawings showing examples, such as a mode selection screen displayed by this example.
[Drawing 4] Drawing 4 (A), (B), and (C) are drawings showing an example of the screen displayed by this example.
[Drawing 5] Drawing 5 (A) is a flow chart for explaining a hit mark display process, and drawing 5 (B) is drawing for explaining hit checking.
[Drawing 6] It is drawing for explaining special work and its operating procedure list.
[Drawing 7] Drawing 7 (A) and (B) are the flow charts for explaining the Replay processing.
[Drawing 8] Drawing 8 (A), (B), and (C) are drawings for explaining the Replay data and the Replay buffer.
[Drawing 9] It is a flow chart for explaining counterattack processing.
[Drawing 10] It is drawing showing the example of a hardware configuration of the game equipment which can realize this example.

[Description of Notations]

10, 12, 14, 16, 20, 22, 24, 26	Manual operation button
30 32	Game character
34, 36, 38	Hit mark
39	Guard Mark
1000	CPU
1002	ROM
1004	RAM
1006	Information Storage Medium
1008	Sound Composition IC
1010	Image Composition IC
1012	I/O Port
1014	I/O Port
1016	System Bus
1018	Display
1020	Loudspeaker
1022	Control Apparatus (Game Controller)
1024	Communication Device

[Translation done.]

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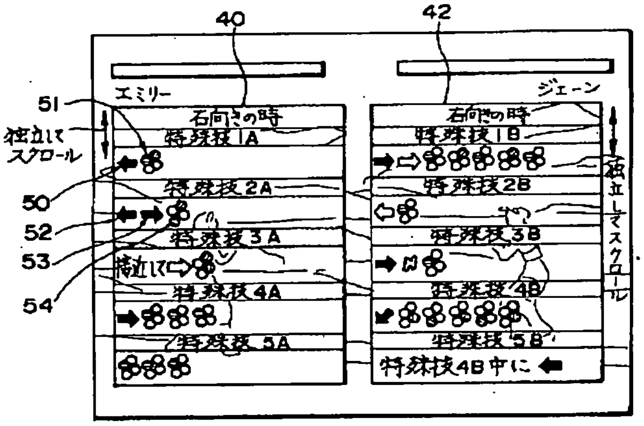
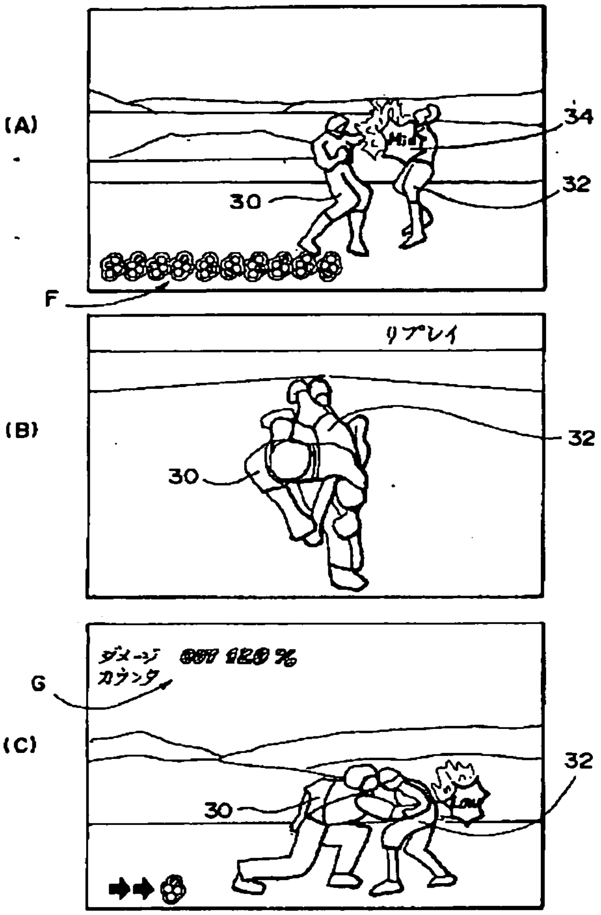
DRAWINGS

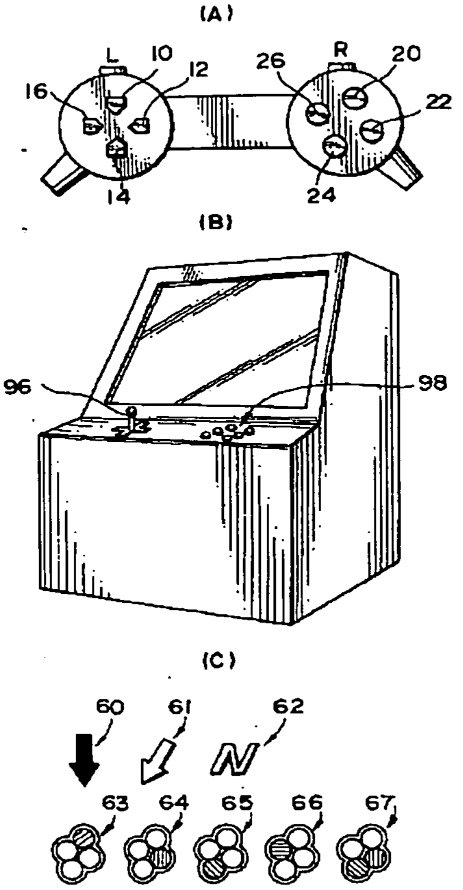
[Drawing 6]



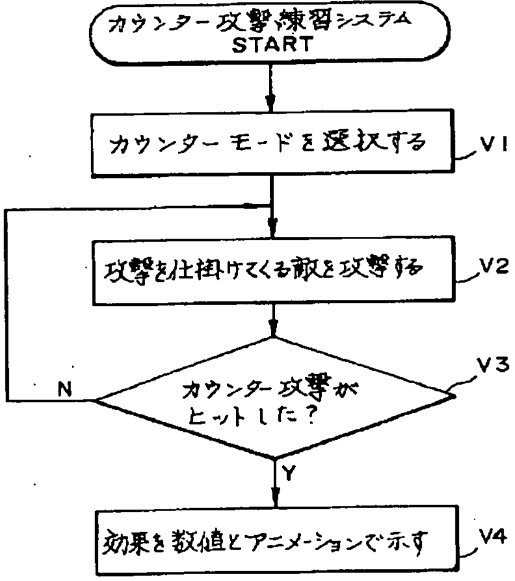
[Drawing 1]



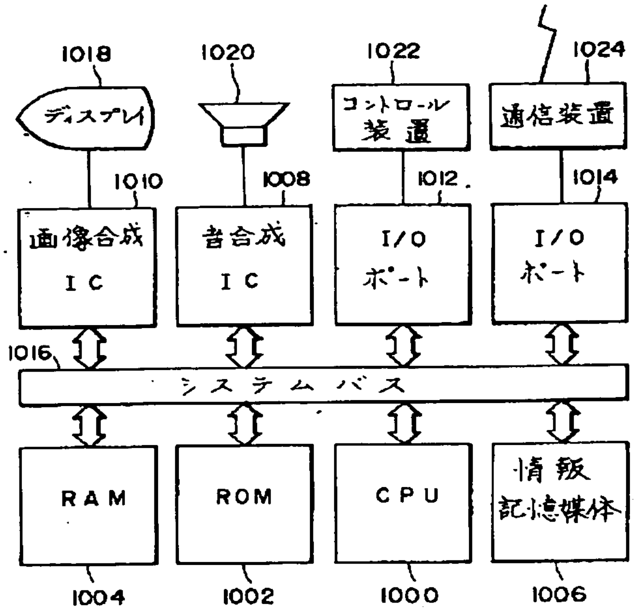
[Drawing 2]



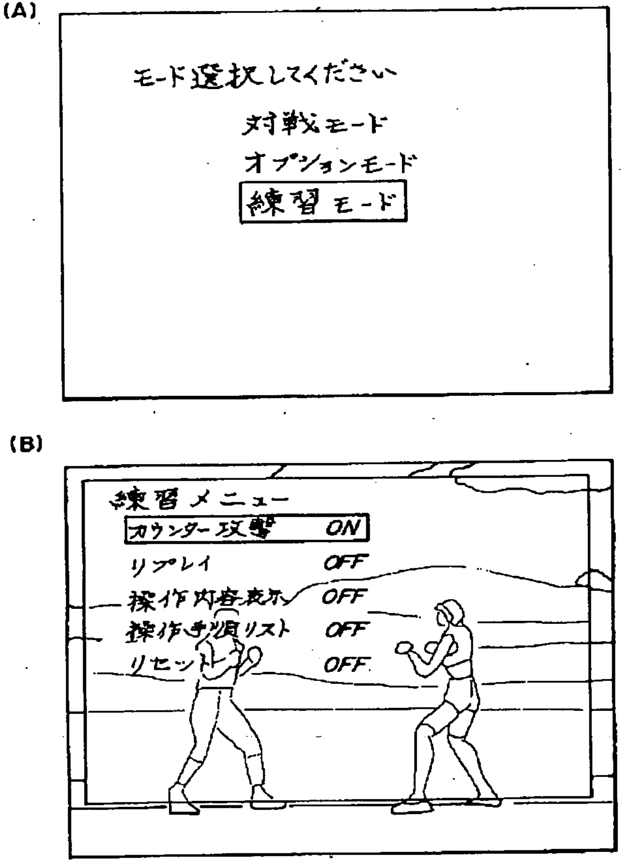
[Drawing 9]


カウンター攻撃練習システム
START
カウンターモードを選択する
V1
攻撃を仕掛けてくる敵を攻撃する
V2
カウンター攻撃がヒットした？
V3
N
Y
効果を数値とアニメーションで示す
V4

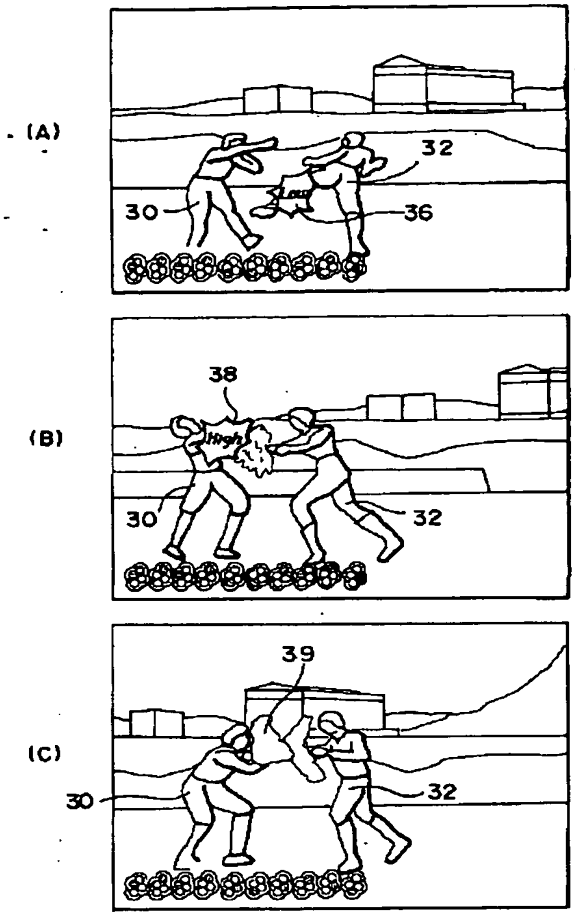
[Drawing 10]



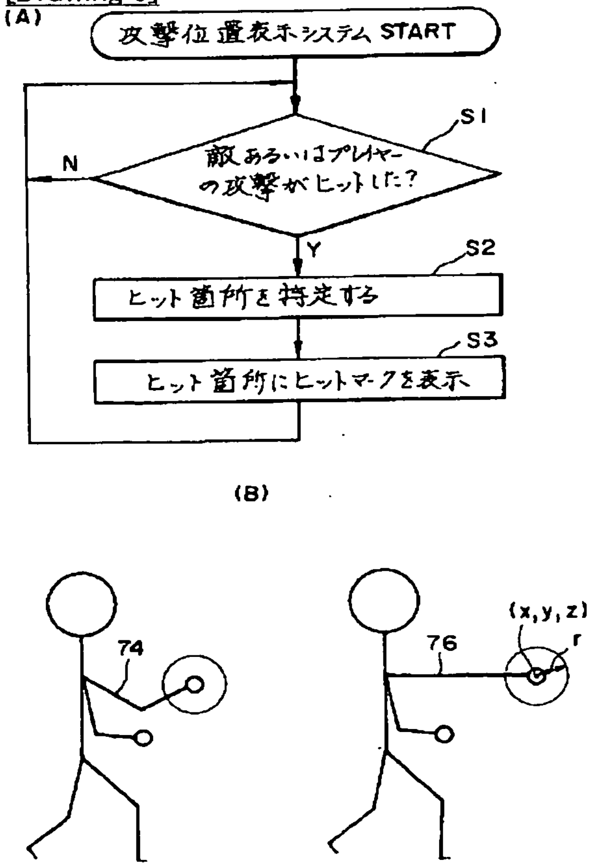
[Drawing 3]


(A)
モード選択してください
対戦モード
オプションモード
練習モード
(B)
練習メニュー
カウンター攻撃 ON
リプレイ OFF
操作内容表示 OFF
操作手順リスト OFF
リセット OFF

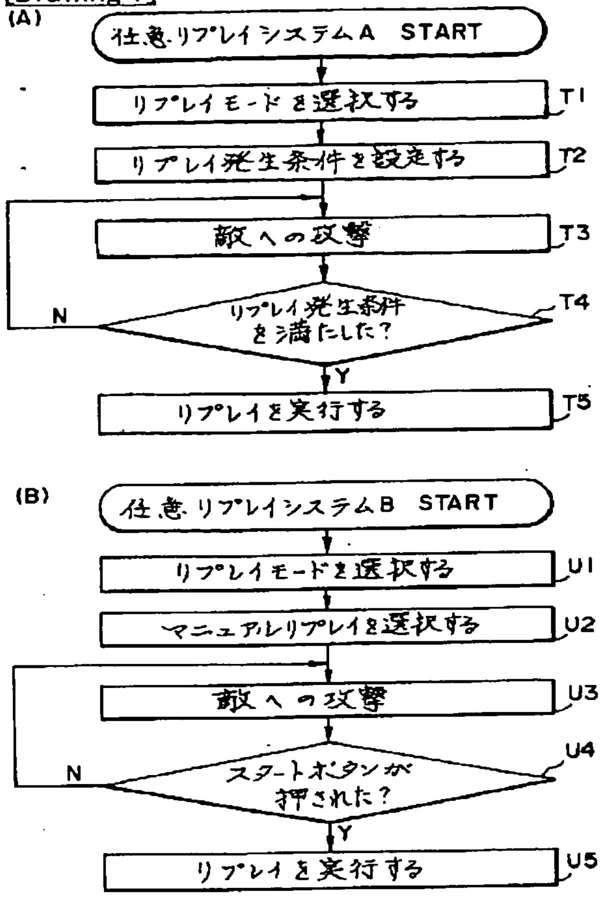
[Drawing 4]


(A)
32
30
36
Low
(B)
38
High
30
32
(C)
39
30
32

[Drawing 5]


(A)
攻撃位置表示システム START
S1
敵あるいはプレイヤーの攻撃がヒットした?
N
Y
S2
ヒット箇所を特定する
S3
ヒット箇所にヒットマークを表示
(B)
74
76
(x, y, z)
r

[Drawing 7]

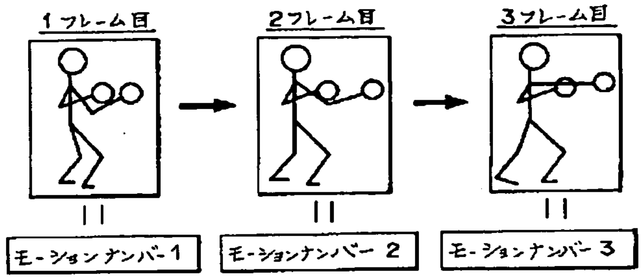

(A)
任意リプレイシステムA START
リプレイモードを選択する
T1
リプレイ発生条件を設定する
T2
敵への攻撃
T3
リプレイ発生条件を満たした？
T4
N
Y
リプレイを実行する
T5
(B)
任意リプレイシステムB START
リプレイモードを選択する
U1
マニュアルリプレイを選択する
U2
敵への攻撃
U3
スタートボタンが押された？
U4
N
Y
リプレイを実行する
U5

[Drawing 8]

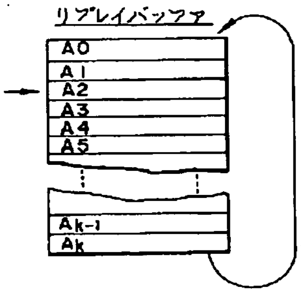
(A)

	プレーヤゲームキャラクタのリプレイバッファ		敵ゲームキャラクタのリプレイバッファ	
nフレーム	位置データ	モーションナンバー	位置データ	モーションナンバー
n+1	次の位置データ	次のモーションナンバー	次の位置データ	次のモーションナンバー
n+2				
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮

(B)



(C)



[Translation done.]

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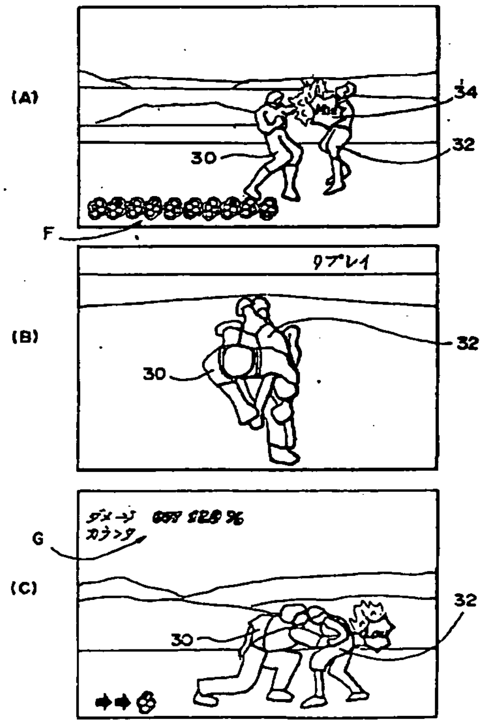
最終頁に続く

(54)【発明の名称】　画像合成方法及びゲーム装置

(57)【要約】

【課題】　ゲームキャラクタに種々の動作を行わせるための操作手順をプレーヤに簡易に修得させることができる画像合成方法、ゲーム装置を提供すること。

【解決手段】　プレーヤが操作の練習を行う練習モードが選択され、ゲームキャラクタ３０の攻撃がゲームキャラクタ３２にヒットすると、ヒット箇所にヒットマーク３４を表示する。またリプレイ発生条件を満たした時或いはプレーヤが所与の操作を行った時にリプレイ画面が表示される。更にプレーヤがカウンタ攻撃の練習を行うために、コンピュータが操作するゲームキャラクタが一定のタイミングで攻撃を仕掛けてくる。



【特許請求の範囲】

【請求項１】　ゲーム画面を合成するための画像合成方法であって、
ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、
一方のゲームキャラクタの攻撃が他方のゲームキャラクタにヒットした場合に、ヒット箇所にヒットマークが表示された画面を表示することを特徴とする画像合成方法。

【請求項２】　請求項１において、
前記ヒットマークが、ヒット箇所を識別するための記号を含むことを特徴とする画像合成方法。

【請求項３】　請求項１又は２のいずれかにおいて、
前記他方のゲームキャラクタが前記攻撃を防御した場合にガードマークを表示することを特徴とする画像合成方法。

【請求項４】　請求項１乃至３のいずれかにおいて、
前記他方のゲームキャラクタの上段、中段、下段に攻撃がヒットした場合に、上段用、中段用、下段用のヒットマークを表示することを特徴とする画像合成方法。

【請求項５】　ゲーム画面を合成するための画像合成方法であって、
ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、
プレーヤが前記練習モードにおいてリプレイモードを選択し、プレーヤの操作するゲームキャラクタがコンピュータの操作するゲームキャラクタに対して行った攻撃が所与のリプレイ発生条件を満たした場合に、プレーヤの操作するゲームキャラクタ及びコンピュータの操作するゲームキャラクタの該攻撃に関するリプレイ画面を表示することを特徴とする画像合成方法。

【請求項６】　請求項５において、
プレーヤの操作するゲームキャラクタの連続攻撃回数が所定回数を超えた場合に前記リプレイ発生条件が満たされることを特徴とする画像合成方法。

【請求項７】　請求項５において、
プレーヤの入力した少なくとも１つの入力操作により特定される操作手順が、所与の基準手順に一致した場合に前記リプレイ発生条件が満たされることを特徴とする画像合成方法。

【請求項８】　ゲーム画面を合成するための画像合成方法であって、
ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、
プレーヤが前記練習モードにおいてリプレイモードを選択し、プレーヤが所与の操作を行った場合に、プレーヤの操作するゲームキャラクタ及びコンピュータの操作するゲームキャラクタの該所与の操作前になされた動作に関するリプレイ画面を表示することを特徴とする画像合成方法。

【請求項９】　ゲーム画面を合成するための画像合成方法であって、
ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、
プレーヤが前記練習モードにおいてカウンター攻撃モードを選択した場合に、コンピュータが操作するゲームキャラクタに攻撃動作を行わせる画面を表示することを特徴とする画像合成方法。

【請求項１０】　ゲーム画面の合成を行うゲーム装置であって、
ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示する手段と、
一方のゲームキャラクタの攻撃が他方のゲームキャラクタにヒットした場合に、ヒット箇所にヒットマークが表示された画面を表示する手段とを含むことを特徴とするゲーム装置。

【請求項１１】　ゲーム画面の合成を行うゲーム装置であって、
ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示する手段と、
プレーヤが前記練習モードにおいてリプレイモードを選択し、プレーヤの操作するゲームキャラクタがコンピュータの操作するゲームキャラクタに対して行った攻撃が所与のリプレイ発生条件を満たした場合に、プレーヤの操作するゲームキャラクタ及びコンピュータの操作するゲームキャラクタの該攻撃に関するリプレイ画面を表示する手段とを含むことを特徴とするゲーム装置。

【請求項１２】　ゲーム画面の合成を行うゲーム装置であって、
ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲ

ームキャラクタとの間で対戦を行わせる画面を表示する手段と、

プレーヤが前記練習モードにおいてリプレイモードを選択し、プレーヤが所与の操作を行った場合に、プレーヤの操作するゲームキャラクタ及びコンピュータの操作するゲームキャラクタの該所与の操作前になされた動作に関するリプレイ画面を表示する手段とを含むことを特徴とするゲーム装置。

【請求項１３】　ゲーム画面の合成を行うゲーム装置であって、

ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示する手段と、

プレーヤが前記練習モードにおいてカウンター攻撃モードを選択した場合に、コンピュータが操作するゲームキャラクタに攻撃動作を行わせる画面を表示する手段とを含むことを特徴とするゲーム装置。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は画像合成方法及びゲーム装置に関する。

【０００２】

【背景技術及び発明が解決しようとする課題】格闘技ゲーム等においては、プレーヤが操作するゲームキャラクタと、相手プレーヤ（又はコンピュータ）の操作するゲームキャラクタとを画面上で対戦させ、ゲームを楽しむ。このような格闘技ゲームでは、実際にプレーヤ同士で対戦しているような感覚を味わうことができるためゲームとしての人気が高い。

【０００３】さて格闘技ゲームにおいては、各プレーヤが有する操作技量の優劣がゲーム結果に大きな影響を与える。特に格闘技ゲームにおいては、ゲームコントローラが有する十字キー、操作ボタンを所与の操作手順（十字キーで左方向を指定し操作ボタンＡとＢとを順次押す等の手順）で操作すると、ゲームキャラクタが特殊技（特殊動作）を繰り出すようなっているのが一般的である。そして特殊技が成功すると、相手に対して大きなダメージを与えることができるため、特殊技の成功の可否はゲーム結果に大きな影響を与える。従って、特殊技を如何にしてスムーズに繰り出せるかが、プレーヤの操作技量の優劣を表すバロメータとなる。

【０００４】しかしながら、上記した特殊技、或いはカウンタ攻撃、ガード等の技を繰り出すための操作手順は一般に複雑であり、この操作手順を習い覚えることはプレーヤにとって非常に困難な作業であった。特に、通常の対戦モードにおいて他のプレーヤとの対戦中にこれらの操作手順を覚えることは難しく、このことは、操作技量に自信がないプレーヤがこの種のゲームを敬遠する１つの要因となっていた。

【０００５】本発明は、以上のような技術的課題を解決するためになされたものであり、その目的とするところは、ゲームキャラクタに種々の動作を行わせるための操作手順を、プレーヤに簡易に修得させることができる画像合成方法及びゲーム装置を提供することにある。

【０００６】

【課題を解決するための手段】上述した課題を解決するために、本発明は、ゲーム画面を合成するための画像合成方法であって、ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、一方のゲームキャラクタの攻撃が他方のゲームキャラクタにヒットした場合に、ヒット箇所にヒットマークが表示された画面を表示することを特徴とする。

【０００７】本発明によれば、プレーヤが操作の練習を行う練習モードにおいて、攻撃のヒット箇所にヒットマークが表示される。従ってプレーヤは、このヒットマークを見ることで、自分の攻撃或いは敵の攻撃がヒットした位置を確認しながらゲーム操作を練習できる。これによりプレーヤは、攻撃テクニック、特殊技に対する防御テクニック等を、簡易且つ迅速に習い覚えることができ、対戦モードでのゲームの面白味も向上できる。

【０００８】また本発明は、前記ヒットマークが、ヒット箇所を識別するための記号を含むことを特徴とする。このようにすれば、プレーヤは、ヒット箇所を更に迅速且つ確実に認識できるようになる。

【０００９】また本発明は、前記他方のゲームキャラクタが前記攻撃を防御した場合にガードマークを表示することを特徴とする。このようにすれば、例えばプレーヤの操作するゲームキャラクタが前記他方のゲームキャラクタである場合に、プレーヤは、自分の防御動作が成功したか否かを容易に確認できる。これによりプレーヤの防御テクニックの向上を図れる。

【００１０】また本発明は、前記他方のゲームキャラクタの上段、中段、下段に攻撃がヒットした場合に、上段用、中段用、下段用のヒットマークを表示することを特徴とする。このようにすれば、プレーヤは、上段、中段、下段のどの位置に攻撃がヒットしたかを容易に確認できる。

【００１１】また本発明は、ゲーム画面を合成するための画像合成方法であって、ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、プレーヤが前記練習モードにおいてリプレイモードを選択し、プレーヤの操作するゲームキャラクタがコンピュータの操作するゲー

ムキャラクタに対して行った攻撃が所与のリプレイ発生条件を満たした場合に、プレーヤの操作するゲームキャラクタ及びコンピュータの操作するゲームキャラクタの該攻撃に関するリプレイ画面を表示することを特徴とする。

【００１２】本発明によれば、練習モードで攻撃を行っている際に所与のリプレイ発生条件が満たされると、その攻撃に関するリプレイ画面の表示が行われる。このようにすれば、プレーヤに対して練習の成果を感じさせる演出手段としてリプレイを活用できるようになる。

【００１３】また本発明は、プレーヤの操作するゲームキャラクタの連続攻撃回数が所定回数を超えた場合に前記リプレイ発生条件が満たされることを特徴とする。このようにすれば、所定回数の連続攻撃を成功したプレーヤの満足感を更に高めることができる。

【００１４】また本発明は、プレーヤの入力した少なくとも１つの入力操作により特定される操作手順が、所与の基準手順に一致した場合に前記リプレイ発生条件が満たされることを特徴とする。このようにすれば、特殊技等の繰り出しに成功したプレーヤの満足感を更に高めることができる。

【００１５】また本発明は、ゲーム画面を合成するための画像合成方法であって、ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、プレーヤが前記練習モードにおいてリプレイモードを選択し、プレーヤが所与の操作を行った場合に、プレーヤの操作するゲームキャラクタ及びコンピュータの操作するゲームキャラクタの該所与の操作前になされた動作に関するリプレイ画面を表示することを特徴とする。

【００１６】本発明によれば、練習モードの際の任意の時に、その前になされた動作のリプレイ画面を見ることができる。これにより、プレーヤは、マニュアルでリプレイモードを楽しむことができるようになり、リプレイモードの自由度を増すことができる。

【００１７】また本発明は、ゲーム画面を合成するための画像合成方法であって、ゲームコントローラを用いた操作の練習をプレーヤが行うための練習モードが選択された場合に、プレーヤの操作するゲームキャラクタと、コンピュータが操作するゲームキャラクタとの間で対戦を行わせる画面を表示すると共に、プレーヤが前記練習モードにおいてカウンター攻撃モードを選択した場合に、コンピュータが操作するゲームキャラクタに攻撃動作を行わせる画面を表示することを特徴とする。

【００１８】本発明によれば、カウンター攻撃モードの際に、コンピュータの操作するゲームキャラクタが実際に攻撃を仕掛けてくるため、カウンター攻撃のテクニックの効率の良い修得が可能となる。

【００１９】

【発明の実施の形態】以下、本発明の実施例について図面を用いて説明する。

【００２０】図１（Ａ）、（Ｂ）、（Ｃ）に本実施例により表示されるゲーム画面の一例を示す。ゲームキャラクタ３０はプレーヤが操作するものであり、敵ゲームキャラクタ３２はコンピュータが操作するものである。図２（Ａ）に本実施例で使用されるゲームコントローラの一例を示す。図２（Ａ）において、操作ボタン１０、１２、１４、１６は方向指示手段となるものであり、例えば操作ボタン１０、１２、１４、１６を押すことで、ゲームキャラクタのジャンプ動作、右移動動作、しゃがみ動作、左移動動作等が行われる。また操作ボタン２０、２２、２４、２６を押すことで、ゲームキャラクタのパンチ動作、キック動作等が行われる。また操作ボタン１４を押す、あるいは操作ボタン１４、１６を同時に押すこと等によりガード動作が行われる。また操作ボタン２０、２２、２４、２６のいずれかをガード動作用の操作ボタンに割り当ててもよい。スタートボタン２８は、ゲームスタート、モード選択等を行うためのものである。

【００２１】なお図２（Ａ）に示すゲームコントローラは、家庭用ゲーム装置において広く一般的に使用されるものであるが、本発明で使用されるゲームコントローラはこれに限られるものではなく、図２（Ｂ）に示すような業務用ゲーム装置のゲームコントローラも含まれる。この場合には方向指示手段となるレバー９６と、操作ボタン群９８とによりゲーム操作を行うことになる。

【００２２】また本実施例では、ゲームコントローラにより順次入力される操作により特定される操作手順が、基準の操作手順に一致するか否かが判断され、一致した場合にはゲームキャラクタが特殊技を繰り出す。例えば基準となる操作手順が「操作ボタン１２を２回連打した後に操作ボタン２０、２４を押す」というものであった場合に、入力された操作手順が入力タイミングも含めて上記基準の操作手順に一致すると、ゲームキャラクタは、この操作手順に対応する特殊技を繰り出すことになる。

【００２３】さて本実施例では、ゲームスタート直後に、図３（Ａ）に示すようなモード選択画面が表示される。そしてプレーヤが、練習モードを選択すると、図３（Ｂ）に示すような練習メニュー画面が表示される。

【００２４】この練習モードは、ゲームコントローラを用いた操作の練習をプレーヤが行うためのものである。練習モードにおいては、図１（Ａ）に示すように、プレーヤの操作するゲームキャラクタ３０と、コンピュータが操作する敵ゲームキャラクタ３２とが対戦を行う画面が表示される。

【００２５】本実施例の第１の特徴は、図１（Ａ）に示すように、練習モードにおいて、一方のゲームキャラクタの攻撃が他方のゲームキャラクタにヒットした場合

に、ヒット箇所にヒットマーク３４を表示する点にある。そしてこのヒットマーク３４は、ヒット箇所を識別するための記号を含む。図１（Ａ）では、敵ゲームキャラクタ３２の中段にパンチがヒットしたため、中段の意味を表す「Ｍｉｄ」の記号を含むヒットマーク３４がヒット箇所に表示されている。これによりプレーヤは、敵ゲームキャラクタ３２のどの位置にパンチがヒットしたかを容易に認識できることになる。一方、図４（Ａ）では、敵ゲームキャラクタ３２の下段にヒットしているため、下段の意味を表す「Ｌｏｗ」の記号を含むヒットマーク３６がヒット箇所に表示される。

【００２６】ヒットマークは、プレーヤが操作するゲームキャラクタ３０に敵のパンチ等がヒットした場合にも表示される。即ち図４（Ｂ）では、コンピュータの操作する敵ゲームキャラクタ３２がパンチを繰り出し、これがゲームキャラクタ３０の上段にヒットしたため、「Ｈｉｇｈ」の記号を含むヒットマーク３８がヒット箇所に表示されている。一方、図４（Ｃ）では、プレーヤの操作によりゲームキャラクタ３０がガード動作を行い、敵ゲームキャラクタの攻撃を回避している。この時には、ガードマーク３９が表示され、敵の攻撃に対する防御が成功したことがプレーヤに対して知らされる。

【００２７】格闘技ゲーム等においては、防御テクニックの優劣もゲームの勝敗を決する重要な要素となる。防御を成功させるためには、敵の攻撃が上段、中段、下段のいずれに対するものなのかを素早く判断し、各々の攻撃箇所に応じた適切なガード動作を行う必要がある。しかしながら、実際の対戦モードにおいては、ゲームキャラクタの動作が速いため、敵のパンチがどの位置にヒットしたかを瞬時に判断できない場合が多い。本実施例の練習モードにおいては、敵の攻撃がヒットすると、ヒット箇所にヒットマークが表示されるため、どの位置にヒットしたかを瞬時に認識できる。また防御に成功した場合にはガードマークが表示されるため、ガードに成功したか否かについても瞬時に認識できる。このため本実施例によれば、敵の攻撃に対する防御テクニックを習い覚える作業が容易となり、複雑な操作手順を適切且つ容易に修得できる練習モードを提供できる。特に、ゲームキャラクタが特殊技を繰り出す場合、例えば上段で攻撃を行う、或いは上段、中段、下段の順で攻撃を行うというように攻撃パターンが決まっている。従って、練習モードにおいて敵ゲームキャラクタに特殊技を繰り出させ、ヒットマーク、ガードマークの表示を見ながら防御テクニックを習い覚えれば、特殊技に対する防御テクニックを簡易且つ迅速に修得できることになる。

【００２８】図５（Ａ）にヒットマーク表示処理を説明するためのフロチャートを示す。まず敵ゲームキャラクタ又はプレーヤゲームキャラクタの攻撃が相手にヒットしたか否かを判断し（ステップＳ１）、ヒットした場合にはヒット箇所を特定し（ステップＳ２）、そのヒット箇所にヒットマークを表示する（ステップＳ３）。本実施例では、ゲームキャラクタのモーションデータが予め用意されている。例えばプレーヤがパンチボタンを押し、これが受け付けられると、パンチ動作のために用意されたモーションデータが読み出され、ゲームキャラクタは、このモーションデータにしたがった動作を行うことになる。例えば図５（Ｂ）のモーション７４、７６は、パンチ動作の際の１フレーム毎のモーションを示すものであり、モーション７４、７６における関節の動き等を表すデータが、モーションデータとして予め用意され、メモリ上に記憶されている。ヒットチェック及びヒット箇所の特定は、このモーションデータ等を用いて行うことになる。具体的には、ゲームキャラクタの拳の位置座標（ｘ、ｙ、ｚ）と半径ｒにより定義される球が、敵ゲームキャラクタと交差したか否かを判断すると共に、交差位置を求めることで、ヒットチェック及びヒット箇所の特定が行われる。

【００２９】なお図６に示すように、各々のゲームキャラクタは各種の特殊技を繰り出すことができる。ここで図６に示される操作手順リスト４０、４２は、ゲームキャラクタ３０、３２が有する特殊技を繰り出すための操作手順を示すものである。この操作手順リスト４０、４２は、図３（Ｂ）に示す練習メニュー画面の操作手順リストモードをオンにすることで表示される。このような特殊技には、攻撃箇所を示すデータが個別に持たされている。例えば特殊技１Ａでは、攻撃箇所は下段、中段の順となっており、特殊技１Ａを表すデータの中には、下段、中段を攻撃することを示すデータが含まれている。従って特殊技が繰り出された際には、この攻撃箇所を表すデータを用いることで、攻撃位置にヒットマークを表示することが可能となる。

【００３０】また本実施例では、図３（Ｂ）に示す練習メニュー画面で、操作内容表示モードをオンにすることで、図１（Ａ）のＦに示すように、プレーヤの入力した操作の内容が種々の識別記号を用いて順次表示される。これによりプレーヤは、自分の入力した操作の内容を視覚的に認識でき、練習モードでの練習の効率を高めることができる。また本実施例では、入力した操作手順と、特殊技を繰り出すための基準手順の一致、不一致を示す表示も行われる。

【００３１】図２（Ｃ）に、識別記号の種々の例を示す。識別記号６０は、下方向への方向指示手段となる操作ボタン１４を押すことを示す記号である。同様に、識別記号６１は、操作ボタン１４と１６を同時に押すことを示す記号であり、この操作は、左下方向への方向指示に相当する。なお識別記号６０と６１は、各々、黒表示、白表示の矢印となっているが、黒表示の矢印は操作ボタンを長く押すことを示し、白表示の矢印は短く押すことを示す。識別記号６２は、２つの入力操作の間に所与の時間間隔を挿入することを示す記号である。本実施

例では、この時間間隔は例えば１フレーム（１／６０秒）～５フレームの間隔となっている。従って識別記号６２は、１つの入力操作から他の入力操作までの時間間隔を、１フレーム～５フレームの範囲内に収めることを要求する記号となる。識別記号６３、６４、６５、６６は、各々、操作ボタン２０、２２、２４、２６を押すことを示す記号である。このように、ゲームコントローラのボタン配置と同様の画像を表示することで、操作内容の識別が容易となる。またこれらの識別記号を比較すれば明らかなように、本実施例では、ゲームコントローラ上での配置が異なる操作ボタンを、互いに異なる色で表示している。このようにすることで、識別記号による操作の識別が更に容易となる。識別記号６７は、操作ボタン２２、２４の両方を押すことを示す記号である。このように操作手順を特定する操作には、複数の操作ボタン等を組み合わせて操作した場合も含まれる。

【００３２】次に本実施例の第２の特徴について説明する。本実施例の第２の特徴は、練習モードにおいてリプレイモードを選択し、リプレイ発生条件を満たした場合或いはプレーヤが所与の操作を行った場合に、リプレイ画面を表示する点にある。図１（Ｂ）に、この場合のリプレイ画面の一例を示す。リプレイ時には、ゲームプレイ時とは異なる視点から見える画面が表示される。

【００３３】図７（Ａ）、（Ｂ）にリプレイモードでの処理について説明するためのフローチャートを示す。本実施例では、リプレイＡ、Ｂの２種類のリプレイが用意されている。リプレイＡでは、まず図３（Ａ）に示す練習メニュー画面でリプレイモードをオンにする（ステップＴ１）。次に、リプレイ発生条件を設定する（ステップＴ２）。リプレイ発生条件としては種々のものを考えることができる。例えばプレーヤの操作するゲームキャラクタの連続攻撃回数が所定回数を超えた時にリプレイ発生条件が満たされるとすることができる。このようにすれば、練習モードでの成果をプレーヤに感じさせる演出手法としてリプレイを活用できる。またプレーヤの入力した少なくとも１つの入力操作により特定される操作手順が所与の基準に一致した場合、即ちプレーヤが特殊技の繰り出しに成功した場合にリプレイ発生条件が満たされるようにしてもよい。このようにすれば、特殊技の成功時に、プレーヤの繰り出した特殊技のリプレイが行われるため、練習モードでの成果に対するプレーヤの満足感を高めることができ、練習モードの魅力を増すことができる。プレーヤが敵へ攻撃を行い（ステップＴ３）、その結果、連続攻撃が成功或いは特殊技が成功する等してリプレイ発生条件が満たされると（ステップＴ４）、図１（Ｂ）に示すようなリプレイ画面が表示されることになる。

【００３４】次にリプレイＢについて説明する。まず練習モードメニューでリプレイモードをオンにし（ステップＵ１）、次にマニュアルリプレイを選択する（ステップＵ２）。マニュアルリプレイにおいては、上記したリプレイ発生条件に拘束されることなく、任意のタイミングでリプレイを発生させることができる。即ち敵への攻撃を行っている際に例えば図２（Ａ）に示すスタートボタン２８が押されると（所与の操作が行われると）、リプレイが実行される（ステップＵ３、Ｕ４、Ｕ５）。これによりスタートボタン２８を押す前の所定期間内に行われた攻撃のリプレイを見ることができる。このようにリプレイＢによれば、プレーヤの所望する任意の時のリプレイを見ることができる。

【００３５】次にリプレイＡ、Ｂを実現する具体的な手法について説明する。ゲームキャラクタにリプレイさせるためのリプレイデータは、メインメモリ内のリプレイバッファに格納される。図８（Ａ）に、リプレイバッファに格納されるリプレイデータのデータ構造を示す。ここでモーションナンバーとは、ゲームキャラクタのモーションデータをメモリ上から読み出すためのものである。例えば図８（Ｂ）には、左パンチ時に１フレーム毎にゲームキャラクタが行うモーションの例が示されるが、これらのモーションを行わせるためのモーションデータ（関節の動き等を表すデータ）は、各々、モーションナンバー１、２、３により読み出すことができる。一方、モーションデータはローカル座標系で記述されているため、絶対座標系でのゲームキャラクタの動きを求めるためには、ゲームキャラクタの絶対座標系での位置データが必要であり、この位置データもリプレイバッファに格納されている。プレーヤの操作するゲームキャラクタのリプレイを行う場合には、プレーヤゲームキャラクタのリプレイバッファから、順次、位置データ、モーションナンバーを読み出せばよい。即ち上記モーションナンバーによりモーションデータを読み出し、このモーションデータを、上記位置データを用いて絶対座標系に変換することで、図８（Ｂ）に示すようなフレーム毎のゲームキャラクタの動きを再現できる。敵ゲームキャラクタの動作のリプレイも同様にして実現できる。

【００３６】リプレイモードでは、図８（Ｃ）に示すように、リプレイバッファに対してアドレスＡ０、Ａ１、・・・・Ａｋの順で順次リプレイデータが上書きされてゆく。アドレスＡｋにリプレイデータが書き込まれると、次は元に戻ってアドレスＡ０にリプレイデータが上書きされる。

【００３７】図２（Ａ）のスタートボタン２８が押されてリプレイＢが行われると、その時点で最も旧いリプレイデータから再生が行われる。例えば最後にリプレイデータが上書きされたアドレスがＡ２であった場合には、アドレスＡ３、Ａ４、・・・・Ａｋ、Ａ１、Ａ２の順でリプレイデータから再生され、アドレスＡ２のリプレイデータを再生した時点でリプレイを終了する。

【００３８】一方、リプレイＡが行われると、連続攻撃を開始したリプレイバッファ上のアドレス或いは特殊技

を開始したアドレスを所与のプログラムにより検索する。例えばそのアドレスがＡ５であった場合には、アドレスＡ５からリプレイデータの再生を開始し、連続攻撃が途切れるアドレス或いは特殊技が終了するアドレスまでリプレイデータの再生を行うことになる。

【００３９】次に、本実施例の第３の特徴について説明する。本実施例の第３の特徴は、練習モードにおいてカウンター攻撃モードを選択した場合に、コンピュータが操作するゲームキャラクタに攻撃動作を行わせる点にある。このようにすることで、プレーヤはカウンター攻撃の練習を効果的に行うことが可能となる。図１（Ｃ）には、カウンター攻撃時のゲーム画面が示される。図１（Ｃ）では、敵ゲームキャラクタ３２の攻撃に対してプレーヤゲームキャラクタ３０がカウンタ攻撃を行っている。

【００４０】図９にカウンター攻撃モードでの処理について説明するためのフローチャートを示す。まず図２（Ｂ）に示す練習メニュー画面でカウンター攻撃モードをオンにする（ステップＶ１）。するとコンピュータが操作する敵ゲームキャラクタが攻撃を仕掛けてくるため、プレーヤはゲームキャラクタを操作してカウンタ攻撃を行う（ステップＶ２）。そしてカウンター攻撃が成功すると（ステップＶ３）、カウンター攻撃が成功したことを示すゲーム画面が表示されると共に、図１（Ｃ）のＧに示すようにカウンタ攻撃により敵に与えたダメージ等を示す表示が行われる（ステップＶ４）。

【００４１】敵ゲームキャラクタが技を繰り出すと、メモリ内に技出しフラグが立つ。この技出しフラグが立っている時に、プレーヤゲームキャラクタの攻撃が敵ゲームキャラクタにヒットすると、

ダメージ量＝通常のダメージ量×１．２

という計算が行われ、敵ゲームキャラクタのダメージ量が増加する。このことをプレーヤに知らせるために図１（Ｃ）のＧに示すような表示が行われる。このようにカウンター攻撃に成功すれば敵に対して大きなダメージを与えることができるため、カウンター攻撃の技量の優劣はゲームの勝敗を決める重要な要素となる。通常の対戦モードでは、敵ゲームキャラクタが攻撃を仕掛けてくるタイミングが一定でないため、カウンター攻撃の練習をするのは困難である。本実施例のカウンター攻撃モードでは、敵ゲームキャラクタが一定のタイミングで攻撃を仕掛けてくるため、カウンター攻撃の練習を効果的に行うことができる。

【００４２】次に本実施例を実現することができるゲーム装置のハードウェア構成例について図１０を用いて説明する。同図に示すゲーム装置では、ＣＰＵ１０００、ＲＯＭ１００２、ＲＡＭ１００４、情報記憶媒体１００６、音合成ＩＣ１００８、画像合成ＩＣ１０１０、Ｉ／Ｏポート１０１２、１０１４が、システムバス１０１６により相互にデータ送受信可能に接続されている。そして前記画像合成ＩＣ１０１０にはディスプレイ１０１８が接続され、音合成ＩＣ１００８にはスピーカ１０２０が接続され、Ｉ／Ｏポート１０１２にはコントロール装置１０２２が接続され、Ｉ／Ｏポート１０１４には通信装置１０２４が接続されている。

【００４３】情報記憶媒体１００６は、ゲームプログラム、表示物を表現するための画像情報等が主に格納されるものであり、ＣＤ－ＲＯＭ、ゲームカセット、ＩＣカード、ＭＯ、ＦＤ等が用いられる。またＲＯＭ１００２は、ゲーム装置本体の初期化情報等を記憶する。但し、情報記憶媒体１００６を用いないようなゲーム装置においては、ゲームプログラム、画像情報等はＲＯＭ１００２に格納される。

【００４４】コントロール装置１０２２はゲームコントローラに相当するものであり、プレーヤがゲーム進行に応じて行う判断の結果をゲーム装置本体に入力するための装置である。

【００４５】情報記憶媒体１００６に格納されるゲームプログラム、ＲＯＭ１００２に格納されるシステムプログラム、コントロール装置１０２２によって入力される信号等に従って、ＣＰＵ１０００は装置全体の制御や各種データ処理を行う。ＲＡＭ１００４はこのＣＰＵ１０００の作業領域等として用いられる記憶手段であり、情報記憶媒体１００６やＲＯＭ１００２の所定の内容、あるいはＣＰＵ１０００の演算結果等が格納される。また図８（Ａ）、（Ｂ）に示すリプレイデータ、モーションデータ等の論理的な構成を持つデータ構造は、このＲＡＭ上に構築されることになる。

【００４６】更に、この種のゲーム装置には音合成ＩＣ１００８と画像合成ＩＣ１０１０とが設けられていてゲーム音やゲーム画面の好適な出力が行えるようになっている。音合成ＩＣ１００８は情報記憶媒体１００６やＲＯＭ１００２に記憶される情報に基づいて効果音やバックグラウンド音楽等のゲーム音を合成する集積回路であり、合成されたゲーム音はスピーカ１０２０によって出力される。また、画像合成ＩＣ１０１０は、ＲＡＭ１００４、ＲＯＭ１００２、情報記憶媒体１００６等から送られる画像情報に基づいてディスプレイ１０１８に出力するための画素情報を合成する集積回路である。なおディスプレイ１０１８として、いわゆるヘッドマウントディスプレイ（ＨＭＤ）と呼ばれるものを使用することもできる。

【００４７】また、通信装置１０２４はゲーム装置内部で利用される各種の情報を外部とやりとりするものであり、他のゲーム装置と接続されてゲームプログラムに応じた所定の情報を送受したり、通信回線を介してゲームプログラム等の情報を送受することなどに利用される。

【００４８】そして図１（Ａ）～（Ｃ）、図３（Ａ）、（Ｂ）、図４（Ａ）～（Ｃ）で説明した画像合成処理は、図５（Ａ），図７（Ａ）、（Ｂ）、図９に示すフロ

チャートに示した処理等を行うゲームプログラムを格納した情報記憶媒体１００６と、該ゲームプログラムに従って動作するＣＰＵ１０００、画像合成ＩＣ１０１０等によって実現される。なお画像合成ＩＣ１０１０、音合成ＩＣ１００８等で行われる処理は、ＣＰＵ１０００あるいは汎用のＤＳＰ等によりソフトウェア的に行ってもよい。

【００４９】なお、本発明は、上記実施例で説明したものに限らず、種々の変形実施が可能である。

【００５０】例えばヒットマークの形態は、本実施例で説明したものに限られるものではなく、ヒット箇所のプレーヤの認識を容易化する工夫を施した種々の形態のものを採用できる。またリプレイ発生条件も、本実施例で説明したもの以外にも、これらと均等な種々の条件を考えることができる。

【００５１】また本発明は、格闘技ゲーム以外のゲームにも適用でき、本発明のゲームキャラクタには、人間、ロボット、戦車を表したもの等、種々のものが含まれる。

【００５２】

【図面の簡単な説明】

【図１】図１（Ａ）、（Ｂ）、（Ｃ）は、本実施例により表示される画面の一例を示す図である。

【図２】図２（Ａ）、（Ｂ）は、ゲームコントローラの一例を示す図であり、図２（Ｃ）は、種々の識別記号を示す図である。

【図３】図３（Ａ）、（Ｂ）は、本実施例により表示されるモード選択画面等の一例を示す図である。

【図４】図４（Ａ）、（Ｂ）、（Ｃ）は、本実施例により表示される画面の一例を示す図である。

【図５】図５（Ａ）は、ヒットマーク表示処理について説明するためのフローチャートであり、図５（Ｂ）は、ヒットチェックについて説明するための図である。

【図６】特殊技及びその操作手順リストについて説明するための図である。

【図７】図７（Ａ）、（Ｂ）は、リプレイ処理について説明するためのフローチャートである。

【図８】図８（Ａ）、（Ｂ）、（Ｃ）は、リプレイデータ、リプレイバッファについて説明するための図である。

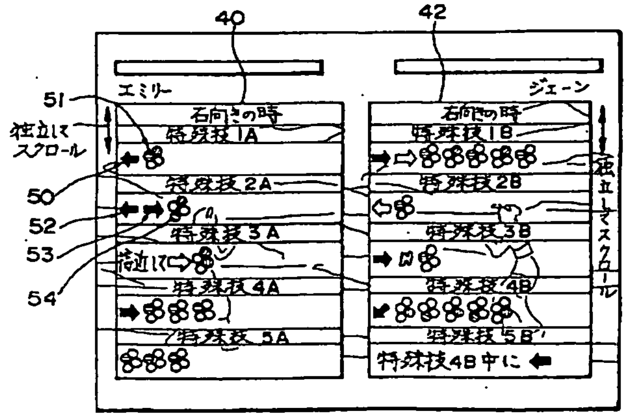
【図９】カウンター攻撃処理について説明するためのフローチャートである。

【図１０】本実施例を実現できるゲーム装置のハードウェア構成例を示す図である。

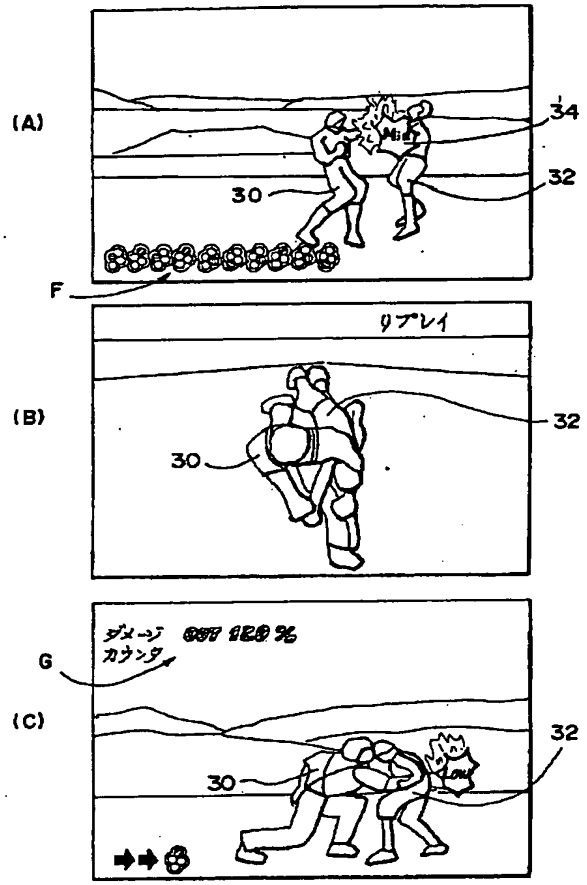
【符号の説明】

１０、１２、１４、１６、２０、２２、２４、２６	操作ボタン
３０、３２	ゲームキャラクタ
３４、３６、３８	ヒットマーク
３９	ガードマーク
１０００	ＣＰＵ
１００２	ＲＯＭ
１００４	ＲＡＭ
１００６	情報記憶媒体
１００８	音合成ＩＣ
１０１０	画像合成ＩＣ
１０１２	Ｉ／Ｏポート
１０１４	Ｉ／Ｏポート
１０１６	システムバス
１０１８	ディスプレイ
１０２０	スピーカ
１０２２	コントロール装置（ゲームコントローラ）
１０２４	通信装置

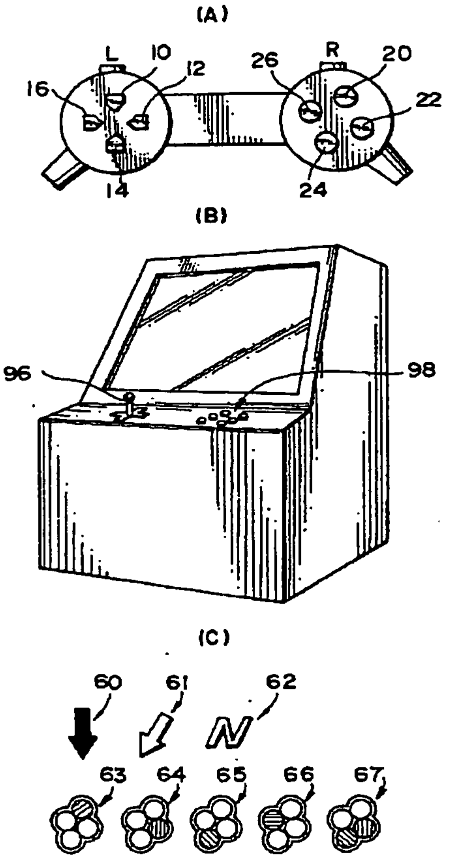
【図６】



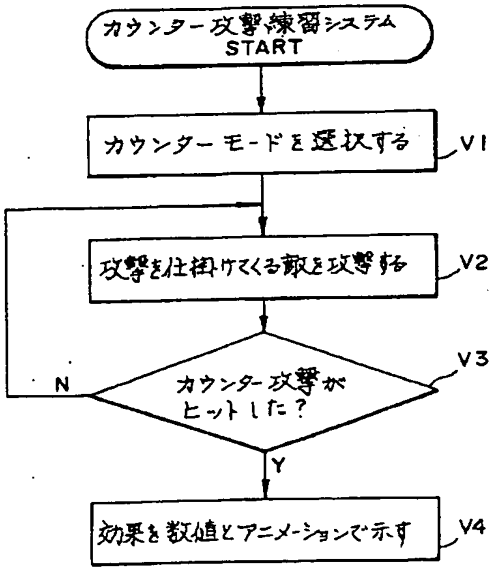
【図1】


(A)
34
32
30
F
(B)
リプレイ
32
30
(C)
ダメージ 077 120 %
カウンタ
G
30
32

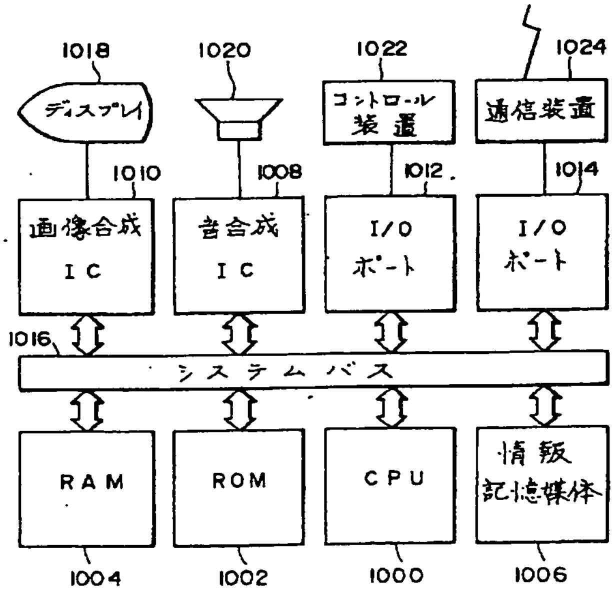
【図2】


(A)
L
10
12
16
14
R
26
20
22
24
(B)
96
98
(C)
60
61
62
N
63
64
65
66
67

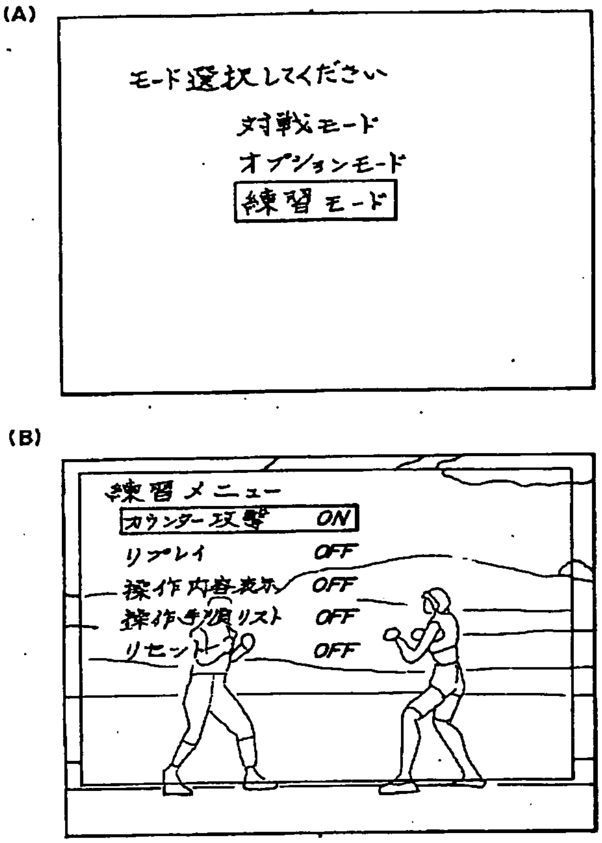
【図9】


カウンター攻撃練習システム
START
カウンターモードを選択する
V1
攻撃を仕掛けてくる敵を攻撃する
V2
カウンター攻撃がヒットした？
V3
N
Y
効果を数値とアニメーションで示す
V4

【図10】

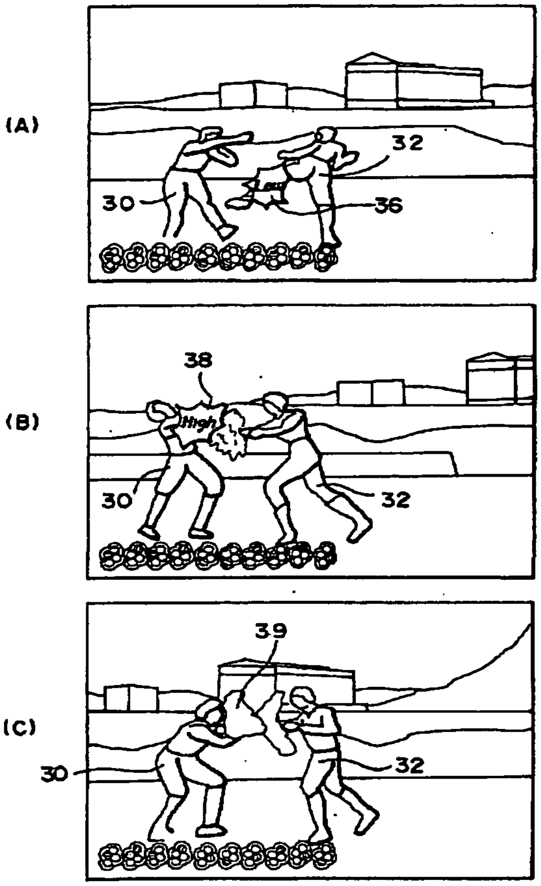

1018
ディスプレイ
1020
1022
コントロール装置
1024
通信装置
1010
画像合成IC
1008
音合成IC
1012
I/Oポート
1014
I/Oポート
1016
システムバス
RAM
ROM
CPU
情報記憶媒体
1004
1002
1000
1006

【図３】

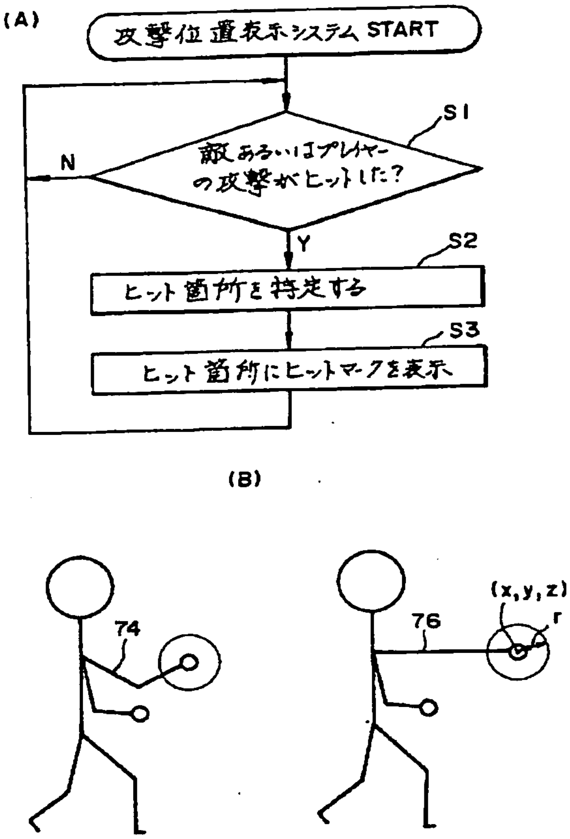


カウンター攻撃 ON
リプレイ OFF
操作内容表示 OFF
操作手順リスト OFF
リセット OFF

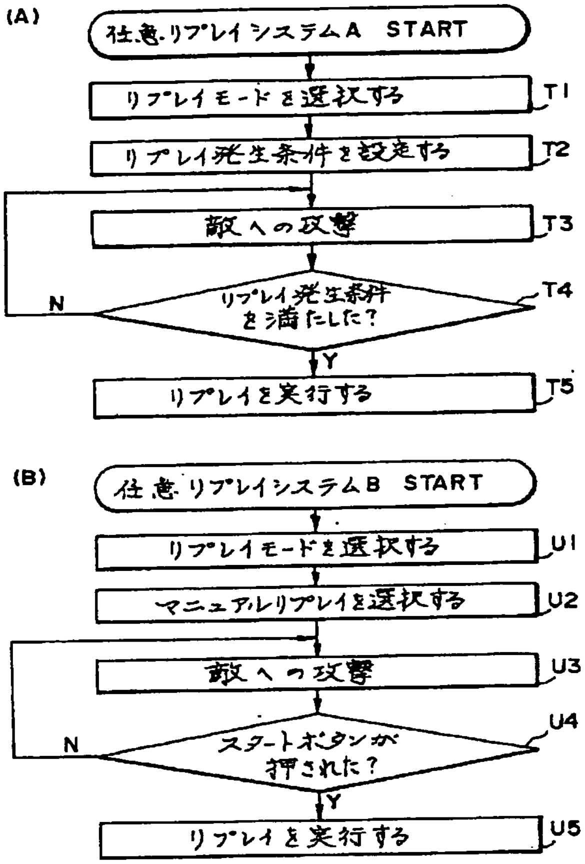
【図４】



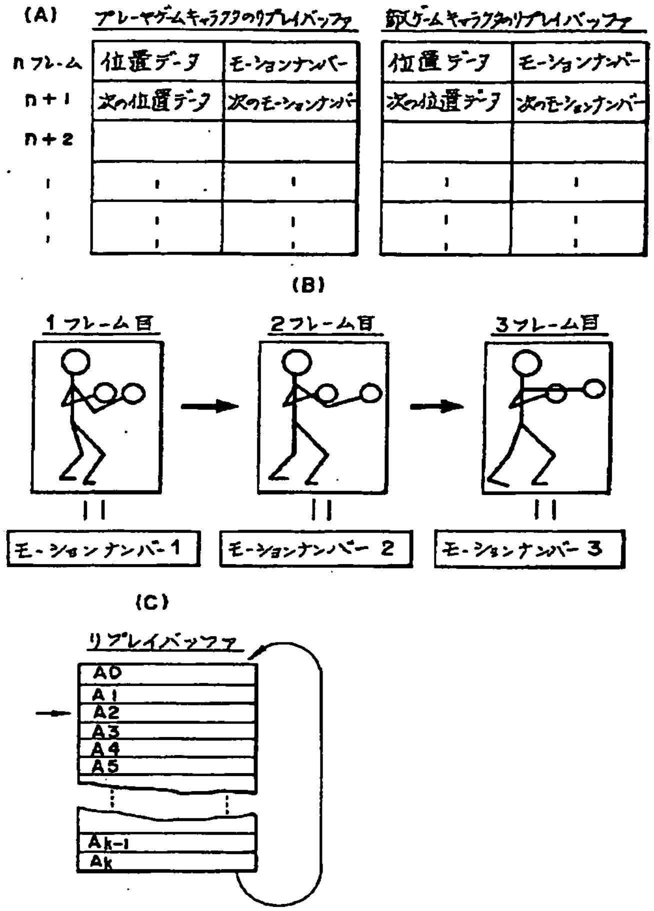
【図5】


(A)
攻撃位置表示システム START
S1
敵あるいはプレイヤーの攻撃がヒットした?
N
Y
S2
ヒット箇所を特定する
S3
ヒット箇所にヒットマークを表示
(B)
74
76
(x,y,z)
r

【図7】


(A)
任意リプレイシステムA START
リプレイモードを選択する
T1
リプレイ発生条件を設定する
T2
敵への攻撃
T3
リプレイ発生条件を満たした?
T4
N
Y
リプレイを実行する
T5
(B)
任意リプレイシステムB START
リプレイモードを選択する
U1
マニュアルリプレイを選択する
U2
敵への攻撃
U3
スタートボタンが押された?
U4
N
Y
リプレイを実行する
U5

【図８】



	プレーヤゲームキャラクタのリプレイバッファ		敵ゲームキャラクタのリプレイバッファ	
nフレーム	位置データ	モーションナンバー	位置データ	モーションナンバー
n+1	次の位置データ	次のモーションナンバー	次の位置データ	次のモーションナンバー
n+2				
⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮

フロントページの続き

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